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ABSTRACT

This simulation allows students to explore the lives of the great rulers of the Mayan culture. Students learn the mysterious history of the Maya by decoding glyphs, investigating the unusual religion of the Maya, unraveling the complex Mayan calendar, and discovering the Mayan number system's secret meanings. Specific cooperation skills are taught and practiced to foster collaborative skills. Students are divided into teams and provided with three types of goods they produce in order to trade and create comparative advantage. Daily meetings by the teams assess the team achievement. The simulation concludes with a final grand ceremony based on the knowledge gained from the study of the culture. (Includes a student guide.) (EH)

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INTERACT
LEARNING THROUGH INVOLVEMENT

COMPLIMENTS OF INTERACT

MAYA

A simulation of Mayan civilization during the seventh century

SO 028 766

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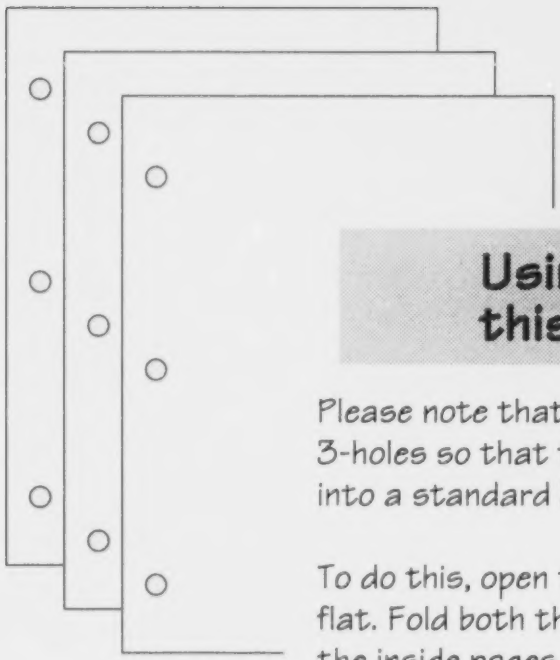

Using the masters in this Teacher Guide ...

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To do this, open this Teacher Guide so that it lies flat. Fold both the front and back covers—away from the inside pages. Firmly grasp the two covers in one hand and the inside pages together in your other hand. *Slowly* pull the two covers and the binding from the inside pages. They will separate cleanly. (Another slower method is to remove the inside pages one by one, starting with the first page.) You can then place all the Teacher Guide pages into the 3-ring notebook binder you have chosen. You will now be ready to remove and use certain pages as masters for duplicating as handouts for your students.

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INTERACT
LEARNING THROUGH INVOLVEMENT

SAMPLE

MAYA

A simulation of Mayan civilization during the seventh century

PETER ROTH, the author of MAYA, became fascinated with the Mayan civilization while traveling extensively through Central America during the 1980s. He and his wife Pauline have explored every major Mayan archeological site, including the six in this simulation. The Roths especially enjoyed meeting the Mayan people of today; they gained a high respect for these proud people, who combine hard work with a ready sense of humor.

Peter has taught at Zephyr Cove Elementary School at Lake Tahoe, Nevada, for over ten years. His interests include travel, scuba diving, and rocketry. He received his B.A. in advertising and journalism from San Jose State University. For Interact he has also written WAR LORDS OF JAPAN, a simulation of the shogun history of feudal Japan.

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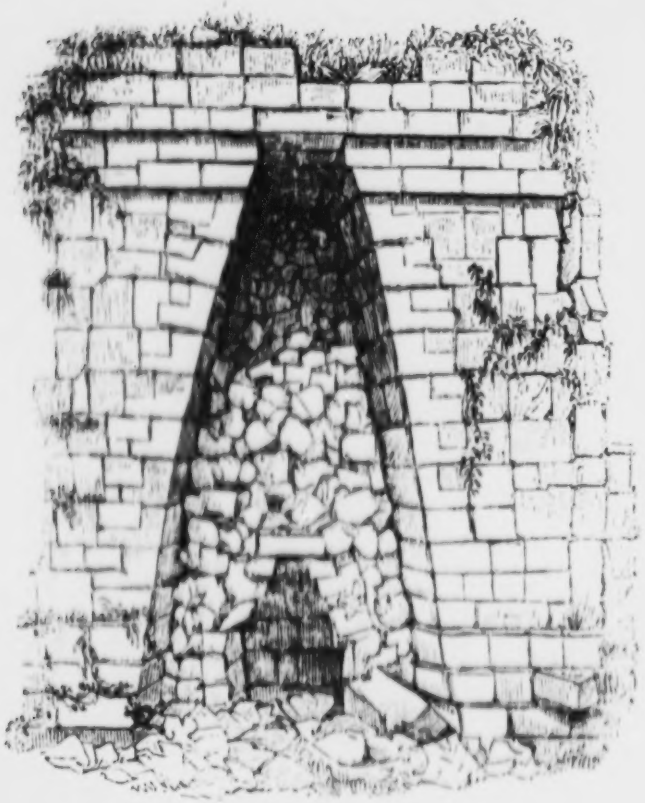
PURPOSE - 1

MAYA invites students to simulate the lives of the great rulers of the Mayan culture. Young Indian leaders return to the sweltering jungles of the Yucatan to build their historic cities. Students quickly understand that the cities must cooperate in order to develop a successful Mayan empire.

Students learn the mysterious history of the Maya by decoding glyphs, by investigating the unusual religion of the Maya, by unraveling the complex Mayan calendar, and by discovering the Mayan number system's secret meanings. Students re-create the structure of the ancient Maya hierarchy to discover the way life might have been in ancient times. Before the simulation draws to a close, students will have discovered that the needs of ancient cultures in many respects are not that different from the needs of successful contemporary cultures.

Students will experience the value of cooperating with others while working to achieve their goals. Specific cooperation skills are taught and practiced to provide students with methods to successfully work with fellow group members as well as with members of other groups. Only through cooperation can channels of trade be opened, the flow of information develop, and growth come to a team's city.



Mayan arch

Knowledge

1. studying the history of the Mayan civilization
2. comparing early and contemporary cultures with other parts of the world
3. learning the importance of the trade of goods and ideas between people
4. evaluating the importance of cooperation in trade
5. understanding the Mayan number system, calendar, and special beliefs
6. learning specific techniques for working well with others

Attitudes

1. understanding the relationships between rainfall, food production, and population
2. respecting the importance of religion in the Mayan culture
3. realizing that the needs of the Mayan culture are similar to those of other ancient and present day cultures

Stela at Uxmal

4. appreciating the art and culture of the Maya
5. discovering the importance of planning for the future
6. appreciating how cooperation leads to success

Skills

1. negotiating with peers to achieve a goal
2. using deductive logic and other math skills
3. accounting for accumulating wealth on balance sheets
4. compiling information
5. improving decision-making skills
6. acquiring and practicing cooperative skills

OVERVIEW - 1

Your students return to a time early in the seventh century deep in the jungles and highlands stretching from the Mexican Yucatan Peninsula, through Guatemala, and into Northern Honduras. As Mayan Indians they are in the process of creating one of the greatest and most fascinating civilizations of early times. As members of a confederation of independently ruled city-states, they cooperate diplomatically, pool their knowledge, and trade their goods to create a mysterious and powerful empire. In this MAYA simulation, your students re-create this lost empire by forming teams and then becoming Mayan citizens playing roles living in historic city-states. Within the simulation they uncover secrets of the Mayan past.

Mayan Chief

Each team begins MAYA with three types of goods that they produce. These goods come in the form of trading strips. Strips are provided by the teacher and are exchanged by the student Ambassadors with other teams in the market place—a teacher designated spot in the classroom. Teams must acquire the goods of other teams through trade in order to meet the minimum requirements for the four sacrifices and to increase their teams overall wealth.

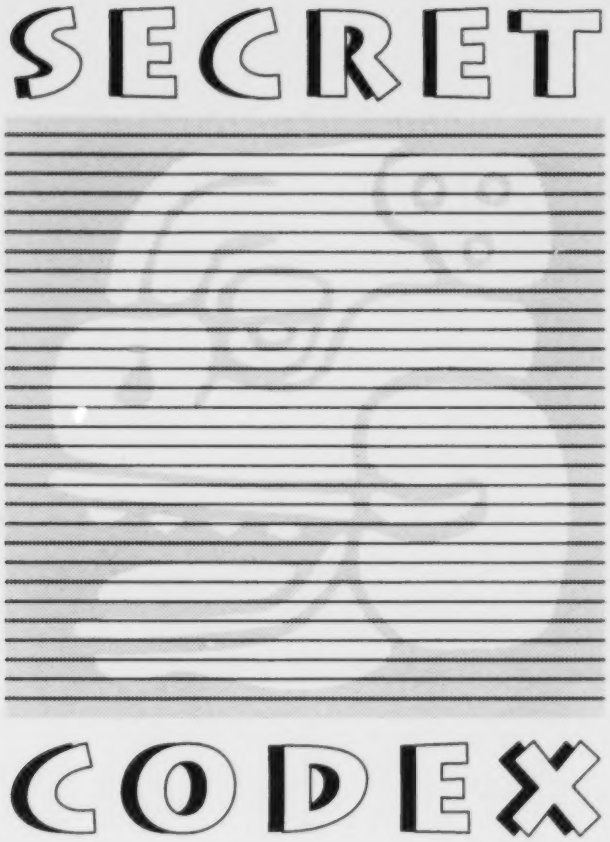
Teams create advantageous trade situations by using deductive reasoning. They deduce which goods the other teams have or lack, as well as figure out the amounts of goods the other teams produce.

Each team also receives a packet of partial information for completing the SECRET CODEX, or Mayan book of knowledge. Each team is given different information. This packet includes information about the Mayan number system, Mayan calendar, the principal Mayan deities, and some of the Mayan prophecies. By sharing their information with other teams, High Priests must complete the pages of their SECRET CODEX.

During daily team meetings are called to plan four things:

- deciding what goods are needed for sacrifice;
- deciding what information is needed for the SECRET CODEX;
- sharing ideas on how the daily art project will be done, and
- practicing the day's cooperative skill.

All team members have a part in the structured meeting presided over by the Noble Lord. After a five- to 10-minute meeting, members go about their daily roles.



As each day ends, team members account for all valuables and corn they have traded, calculate their city's population, and record new information in their SECRET CODEX. This information is placed in the team's folder along with completed art work and math projects which the teacher checks later.

The teacher rewards excellent work with strips of corn which add to a city's wealth and population. The more advanced students are challenged to earn extra corn strips by completing a research report.

When MAYA concludes with a final Grand Ceremony, students will have gained considerable knowledge and appreciation of the splendid Mayan past. Concurrently, students will have learned the value of and practiced the techniques of working cooperatively with their peers in order to achieve personal goals and group success for their Mayan city.

INITIAL PREPARATION - 1

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TEACHING TIP

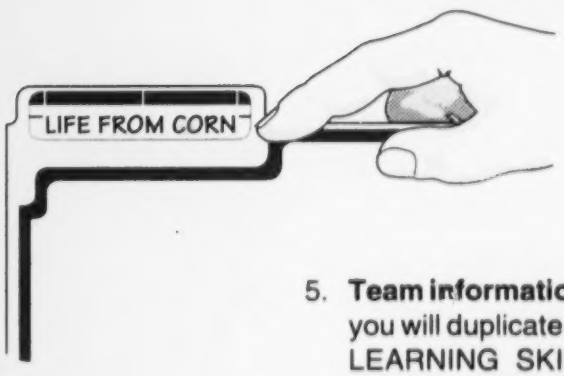
Begin your preparation for this MAYA simulation at least a week in advance. Take notes in the left margin if this Teacher Guide as you think of ideas to customize this simulation for your class and your situation.

1. **Study** Read carefully the MAYA Teacher Guide and Student Guide to fully understand the rules and organization of the simulation.

2. **Bulletin board** Create the MAYA Board of Sacrifice on your bulletin board using the model found on page 20. Do this several days before beginning MAYA to build excitement with your students.

3. **Maps** Locate a good map of the Mayan Empire, and of Mexico and Central America. *National Geographic*, December 1975 and April 1986 have good ones you can laminate and hang in your room.

4. **Handouts duplication** Copy the following forms on the suggested colors of paper. Produce the number of copies indicated and place each title in its own file folder.
   - ROYAL INVENTORY SHEET (60 on pink)
   - CREATING A STELA (six sets on white)
   - AMBASSADOR'S LETTER OF INTRODUCTION (60 on green)
   - LIFE FROM CORN (class set on white)
   - CORN TRADING SLIPS (30 on blue)
   - ROYAL CENSUS SHEET (60 on blue)
   - TEAM ROLE SCHEDULE (six on white)
   - VALUABLES FOR TRADE (four of each city on gold)
   - SECRET CODEX #1, 2, 3 (six of each on white)
   - MAYAN MATH (six of each page on white)
   - FATE CARDS (two sets, worthy set on blue, unworthy set on pink or red)
   - HEADDRESS PROJECT (six on white for teams, one for each Scribe)
   - OPTIONAL ILLUSTRATIONS (optional art for Scribe)



5. **Team information packets duplication** On page 63 begins items you will duplicate to make a packet for each team: COOPERATIVE LEARNING SKILLS, a COOPERATIVE LEARNING CHECK-SHEET, a MAYA DAILY TASK TIME TABLE, and five items unique to each city—a *city god; trading schedule and valuables; lucky numbers; lucky days; and picture glyphs of Mayan numbers.* In addition, a *MAYAN CALENDAR* is included for each team. The latter items in *italics* you cut apart, laminate (if possible), and hand out in the sequence found in the Daily Directions (see p. 14, item #10).

6. **Maya illustrations duplication** Notice the final Mayan illustrations pages beginning on page 75. *Duplicating these pages is optional.* They can be useful for decorating team areas if you wish to give copies to individual students or teams. (Younger students particularly like to use felt pens to color and then post these illustrations around the room or to add them to their notebooks.)

BIBLIOGRAPHY

During the course of the MAYA simulation, you will probably have many questions about the Mayan civilization. Fortunately, much research has been done and is continuing today at many Mayan archeological sites. Several good books and articles exist. Here are a few representative sources.

Adult Level

Coe, Michael D., *Breaking the Maya Code*, Thames and Hudson, 1992

Coe, Michael D., *The Maya*, Thames and Hudson, revised 1980

Menchu, Rigoberta, *I, Rigoberta Menchu*, Routledge, Chapman and Hall, 1985 (Menchu is the 1992 Nobel Peace Prize winner.)

Thompson, Eric S., *Maya History and Religion*, University of Oklahoma Press, 1970

Student Level

—Issues of the *National Geographic Magazine:*

- November 1974, p. 661 ff: "Guatemala, Maya and Modern"
- December 1975, p. 729 ff, "The Maya"
- August 1981, p. 220 ff, "Maya Art Treasures"
- April 1986, p. 420 ff, "Rio Azul"
- October 1989, p. 424 ff, "La Ruta Maya"
- February 1993, p. 95 ff, "Violent Saga of a Maya Kingdom"

Green, *The Maya*, Franklin Watts, 1992

March 1993, "The Maya," *Kids' Discover Magazine*

McKissack, *Maya*, Children's Press, 1985

Odijk, *Mayas*, Silver-Burdett, 1990

Trout, *Maya*, Chelsea House, 1991

Books of Art

Caraway, *The Maya Design Book*, Stemmer House Publishers, 1981

Turner, *Maya Designs*, Dover Publications, 1980

Video

Lost Kingdoms of the Maya, The National Geographic Society,

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TEACHING TIP

What a wonderful way to introduce your students to the fascinating Mayans!

CLASS SIZE ADJUSTMENT

Here are ways you can alter MAYA for use with a smaller or larger class size.

For a class of 20:

1. Create five teams of four members each. Combine the role of Noble Lord and Scribe.

2. Because there are six cities to choose from, one city will not be selected as a team name. Make that city an abandoned city (no team members).

3. Eliminate the abandon city's VALUABLES from all sacrifices.

4. The High Priest of each group may go to the abandoned city's INFORMATION PACKET on their scheduled trade day to discover the "lost information." You will need to insert the Mayan numbers in the INFORMATION ENVELOPE the first week, then insert the DEITY CARDS and the PROPHECY CARDS for the second week. Be sure to leave a blank SECRET CODEX sheet in the abandoned city's packet. The exploring High Priests must leave their city's secret information behind for other explorers to discover.

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TEACHING TIP

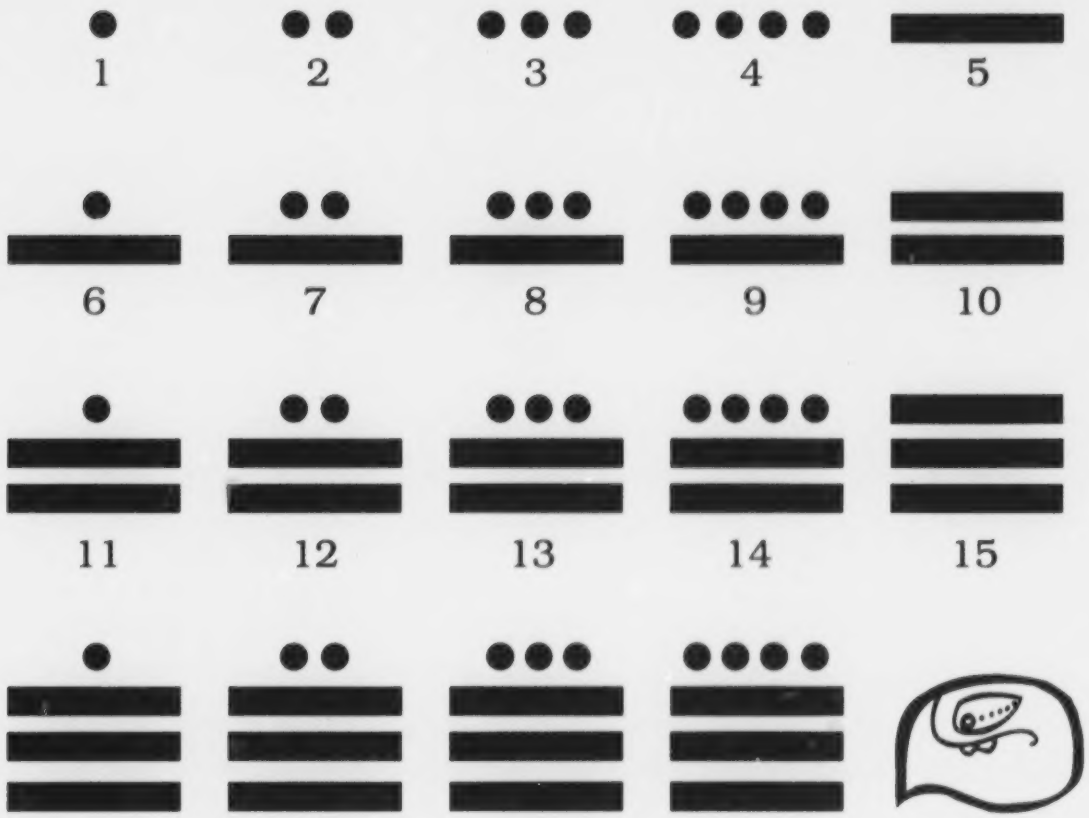
Another option: ***The Grave Robber Special!*** *You may also insert a few of the abandoned city's VALUABLES in the INFORMATION PACKET each day for "discovery." Then be sure to include these items in the sacrifices.)*

For an extra large class

1. Try the Seven Group Option. Imagine a trading party of the local Indian tribe from your area has reached the Yucatan to set up trade with the Maya. Create a group representing the local tribe. Research the tribe's early number system, goods they used and traded, religious beliefs, and superstitions. Add this information to the SECRET CODEX, and add the trade items to the sacrifices.

NUMEROS MAYAS

(Teacher reference only)



Below are the glyphs associated with the Mayan numbers.

UNIT TIME CHART **Example—alter as desired.**

M	Tu	W	Th	F
		Before the simulation begins		
		Divide class into 6 teams Read descriptions of Mayan cities Read Background Essay Introduce cooperative skills	Practice with Royal Inventory Create a Stela	Practice with Letter of Introduction Life From Corn Practice with Royal Census Complete Team Role Schedule
Follow Day 1 instructions carefully Take extra day if you do not finish everything **1**	Return corrected folders First team mtg Follow Day 2 instructions and the **D**aily **T**ask **T**ime **T**able (**DTTT**) **2**	Return corrected folders Team mtg Follow **DTTT** First sacrifice **3**	Return corrected folders Team mtg Follow **DTTT** Hand out SECRET CODEX #2. Add Number Prophecy Cards to Information Packets Teams receive new valuables **4**	Return corrected folders Team mtg Follow **DTTT** Second sacrifice **5**
Return corrected folders Team mtg or advanced students begin research reports Follow **DTTT** Hand out SECRET CODEX #3. Add Deity Cards to Information Packets Teams receive new valuables **6**	Return corrected folders Team mtg or advanced students present research reports Follow **DTTT** **7**	Return corrected folders Team mtg Follow **DTTT** Begin Headdress Project Third sacrifice **8**	Return corrected folders Team mtg or advanced students present research reports Follow **DTTT** Teams receive new valuables **9**	Return corrected folders Final team mtg Follow **DTTT** Final Grand Ceremony and sacrifice **10**

DAILY DIRECTIONS - 1

Three Days of pre-simulation activities

These activities will make your job go easier once MAYA begins.

Start the following pre-simulation activities with your class three days before officially beginning MAYA. During these three days your students will build an important understanding and appreciation of the Mayan culture, learn valuable skills that will help them work as a team, and they will gain an understanding of some of the forms required in MAYA.

3 days before the simulation begins

1. Organize your class into teams. Teacher selected grouping works best to assure teams of equal size and abilities. Ideally, you should organize six teams of five members each. However, MAYA works well even if you need to make adjustments due to your particular class size. (See Class Size Adjustments earlier on page 7.)

2. Read the DESCRIPTION OF THE MAYAN CITIES, found on page 5 in the Student Guide. Allow each group to pick the city it wishes to represent. Teams should also decide on their team colors and a secret Mayan name for their leader.

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TEACHING TIP

Some actual Mayan leaders' names were Feathered Serpent, Jeweled Skull, Stormy Sky, Pacal, Bird Jaguar, and Shield Jaguar. Students may wish to research these and other famous leaders.

3. Introduce the Student Guide's MAYAN CIVILIZATION BACKGROUND ESSAY by asking students to look for ways that the Mayan Empire benefited by cooperation between cities. Depending upon your students' age/abilities, have students read or listen to you read this essay to them.

4. Impress upon your students that just as cooperation was important to the success of the Mayan civilization, cooperation will be the key to their teams' success in MAYA. Then have students go over the new information which they have just read or have heard read to them.

2 days before the simulation begins

1. Introduce and practice the ROYAL INVENTORY SHEET handout.

2. Allow about 45 minutes to do the CREATING A STELA handout. This is an important team building exercise that will help team members to work more easily with each other during the course of the simulation.

DAILY DIRECTIONS - 2

1 day before the simulation begins

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TEACHING TIP

You may wish to use an extra class set of both these handouts in #1 and #2 so that students can fill them out today and feel confident about their use.

1. Review the ROYAL INVENTORY SHEET.
2. Introduce and practice the LETTER OF INTRODUCTION.
3. Pass out the LIFE FROM CORN essay and then go over it slowly to insure that students understand corn's importance to the Mayan way of life.
4. Take the CORN QUIZ. When each team has successfully answered all questions, award teams 75 bushels each (1 full handout sheet of CORN STRIPS)—with which teams begin the simulation.
5. Introduce and practice the ROYAL CENSUS SHEET.
6. Have each team fill out its TEAM ROLE SCHEDULE. Remind students that they will perform each role for two consecutive days before assuming a new role. Example: a student may be Noble Lord on Monday and Tuesday, then Ambassador on Wednesday and Thursday, etc. These schedules may be stapled inside the team folders or displayed on a bulletin board in the room.

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TEACHING TIP

Expect some confusion on the first simulation day while the young leaders learn the new forms and procedures. Soon your students will be working confidently on their own.

Day 1—The simulation actually begins!

Now its time to get started with MAYA. Read this section two or three times, then follow these directions for a successful first day.

1. Start the day with these items on each team's desks:
   - two envelopes: label one, CORN; the other, VALUABLES
   - one 12"x 18" sheet of white construction paper for the team folder
   - TEAM ROLE SCHEDULE
2. Explain that today the Scribes job is to label and decorate the storage envelopes and the team folder with colorful Mayan designs. Be sure the city name and all individual students names are on the folder. Staple the completed TEAM ROLE SCHEDULE to the inside of the folder for quick reference throughout the simulation. Completed artwork for each day can earn up to *10 bushels* of corn for a city.

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TEACHING TIP

Designate the Scribe to cut out the trading strips and corn strips.

3. Pass out each team's VALUABLES FOR TRADE and a pink ROYAL INVENTORY SHEET. Have all team members watch while the Ambassador enters the actual number of valuables the team has been given in the "Yesterday's Amount" column of the INVENTORY. Explain that these are the only valuables that each group produces. Groups must trade what they produce to gain the other valuables required on sacrifice days.

4. Explain that at the end of today's trading period, the Ambassador and Noble Lord will work together to complete the INVENTORY. Valuables that are traded away and valuables gained through trade are recorded in the "Traded, Earned, or Sacrificed" column. These items are then added or subtracted from "Yesterday's Amount" and the new total is recorded in "Today's Amount." Emphasize that the number of valuables shown in the Today's Amount column must always equal the actual number of valuables (each trading strip has the value of 5) held by the city at the end of each day. An accurate and complete ROYAL INVENTORY SHEET will earn each group up to *25 bushels* of corn.

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TEACHING TIP

For younger students this INVENTORY may be too difficult. Simply eliminate this form and have the Ambassador and Noble Lord keep a count of their team's trading strips.

5. Designate a specific area for the Market Place where only Ambassadors may meet to trade. High Priests may decide among themselves where they would like to sit down and exchange information, preferably where they may easily write in their codex. During trade time only Ambassadors and High Priests are allowed to travel. Any other group members found out of their seats will be penalized five bushels of corn for each infraction.

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TEACHING TIP

All forms do not have to be handed out and explained this first day. You may prefer to start with only one or two forms and then introduce other forms on subsequent days.

6. Pass out the following forms one at a time. Discuss the use of each:
   - **LETTER OF INTRODUCTION** is to be filled out by the Ambassador during the team meeting. This letter directs the Ambassador's role in the team meeting as he or she asks other team members for suggestions concerning what valuables are needed and then records them on the letter. The LETTER OF INTRODUCTION also helps to guide the Ambassador during trading and should be carried to the Market Place to be signed by the Ambassador from the other city. Correctly filling out the LETTER OF INTRODUCTION will earn each city up to *10 bushels* of corn each day.

   - **MAYAN MATH Task 1** is to be completed at the Mathematician's desk during the time the Ambassador and High Priest are traveling to trade. The work is checked and okayed by the Noble Lord before the team folder is turned in at the end of the day. From Day 2 on, MAYAN MATH should be given to the Mathematician after the team meeting to assure that he or she is participating in the meeting and not starting on the math. Correctly working the MAYAN MATH will earn each city up to *five bushels* of corn *per problem* each day.

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TEACHING TIP

You may wish to substitute math material that is more appropriate to your students' age/abilities—or specific math lessons you are currently teaching.

Assign the Mayan math task word problems to the mathematician, first. Then, on the next day, assign Mayan math task word problems using the Mayan calendar and number system. Older students should also receive the deductive reasoning math tasks on even numbered days for an extra challenge, if they finish early.

- **ROYAL CENSUS SHEET** is filled out by the Mathematician after completing the MAYAN MATH and after the Ambassador has concluded trading and has returned to the group. The Ambassador must inform the Mathematician how much corn was traded by their group that day, if any. Corn gained through trade is an import, corn traded away is an export.

7. All teams begin with 75 bushels of corn as a result of the PRE-TEST members took earlier. This figure is placed at the top of the ROYAL CENSUS SHEET on the line labeled Yesterday's Corn. Each bushel of corn will support five people. Multiply to calculate the current population of the city. Beginning population will therefore be 375 people. (75 x 5)
   - Corn that has been earned from the work completed in the team folder or extra credit work is recorded on the Earned Today line. Because no corn will be earned until the folders are graded and returned on Day 2, normally a zero would be recorded on this line unless you have awarded extra credit corn for any pre-simulation activities.
   - Any corn lost due to infractions or corn sacrificed on a sacrifice day is subtracted on the Penalty or Sacrifice line. The final figure shown on the "Today's Corn" line is then verified by the Noble Lord who counts the actual Corn Strips, then signs off, assuring that the census is correct. An accurately filled out ROYAL CENSUS SHEET will earn each team up to *10 bushels* of corn.

8. Stress to your students that all items (valuables and corn) are traded and counted in groups of five. Strips are not to be cut into units smaller than five. Example: One strip is equal to five items, so a trade of one strip of gold for two strips of salt would be recorded as "five gold for 10 salt." Five was an important number to the Maya, written by drawing a straight bar, hence the trading strip being equal to five.

9. Pass out page 1 of the SECRET CODEX to each group. Tell your class that they will receive partial information about the Mayan number system and the Mayan names for the days in their INFORMATION PACKET. The High Priest of their city will meet with the High Priest of the other cities according to their trading schedule to exchange the secret knowledge that only their city possesses. Each city has the symbol for three or four Mayan numbers and the picture and symbol for three or four of the days.
   - Once a team has figured out how to write the Mayan numbers from 0 to 20, then they have earned the right to receive and use the Mayan calendar. If students are still missing a few of the pictures and names of the 20 Mayan days they will find this

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TEACHING TIP

Students will ask if they can withhold information or give inaccurate information to the other groups. (This Teacher Tip is continued on page 14)

information on the calendar and use it to complete their SECRET CODEX. Each completed SECRET CODEX page is stapled to the team folder and awarded *25 bushels* of corn.

- No corn is awarded for an unfinished or inaccurate codex page. Since page 2 of the SECRET CODEX will be handed out on Day 4 and page 3 on Day 6, High Priests may end up working on more than one page if they fall behind in acquiring the needed information from the other cities.

10. Pass out to each group its INFORMATION PACKET containing only the following information: MAYAN NUMBERS, MAYAN DAYS, TRADING SCHEDULE, and LIST OF VALUABLES FOR TRADE. You will award a group their MAYAN CALENDAR when they figure out the 20 Mayan numbers, or automatically on Day 3, whichever comes first. Each group will receive its PROPHECY CARD for its INFORMATION PACKET on Day 7 and their DEITY CARDS on Day 6.

11. Inform your students that they will begin their team meetings on Day 2 as more time is needed on the first day to introduce and work on the new forms. Instruct your students about their first Cooperative Skill—Moving Quietly about the room—if they are traveling (Ambassadors and High Priests). Noble Lords will observe and remind all group members of this important skill.

12. It is now time for students to complete their daily tasks. Remind students that Team Meetings will begin on Day 2.

13. All team folders must be turned in at the end of the period for grading. Request that students place their work in the folders in the following order: ROYAL INVENTORY, LETTER OF INTRODUCTION, ROYAL CENSUS, MAYAN MATH, SECRET CODEX, any artwork or extra credit work, and the COOPERATIVE SKILL CHECKSHEET.

Day 2

1. Return the folders to the teams with their graded papers stapled together and the corn strips they have earned. Discuss one area of success and one or two areas of improvement for each group from the notes you took while grading. Remind students that they will need to mention these areas of success and improvement during today's team meeting.

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TEACHING TIP

Teacher Tip continued ... Stress that this strategy will work against them. Only by working together with the other cities, then using inductive or deductive reasoning will they be able to gather enough information and valuables to reach their goals.

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TEACHING TIP

***Note:** Not all items in the Team Packets are handed out at this moment.*

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TEACHING TIP

An egg or a cook's timer is a good device to keep students on task.

***Note:** Covering all these 13 suggestions on Day 1 may be difficult. If so, cover some on Day 2.*

TT

TEACHING TIP

Take a minute to explain how information from yesterday's forms gets transferred to today's forms.

2. Plan to spend a few minutes extra with your students today stressing the importance of the team meeting. *Review each team member's responsibility in the meeting referring to the TEAM MEETING AGENDA found in the Student Guide.* You may have to give extra help. For example, you might model how the Noble Lord can describe and practice the cooperative skill. You might say— "Today's cooperative skill is using indoor voices. This is an example of an indoor voice."

3. Remind groups that only the LETTER OF INTRODUCTION should be worked during the team meeting as it is an integral part of planning.

4. Pass out the MAYAN MATH Task 2 (Practice Problem for younger students) or Deductive Reasoning Task 2 for advanced students to the Mathematicians at the conclusion of the team meeting.

TT

TEACHING TIP

Important:
Always have students hold up their hands for help rather than having them follow you around the room. Doing so will insure that you do not have a parade forming behind you at the beginning of the simulation.

5. Have teams follow the DAILY TASK TIME TABLE found in each team folder. Keep students informed of when it is time to move on to a new task. You should circulate around the room helping groups where needed. *Insure that they have their DAILY TASK TIME TABLE in front of them and are paying attention to it.*

6. If you find that some students complete their work quickly, explain that they should use their time to help teammates finish and proof-read their work. This will improve the entire team's performance. Also, keep extra credit art work or research projects ready for fast workers.

7. Remind all cities that tomorrow is a sacrifice day. The sacrifice will come at the end of the day so they will be able to trade before the sacrificial ceremony.

Day 3

1. Inform students that the end of the period will be their first sacrifice. Because approximately 10 minutes will be needed for the ceremony, the team meeting will be limited to five minutes and trading time will only last for 7-10 minutes.

2. Follow the DAILY TASK TIME TABLE and suggestions from Day 2.

3. Begin the sacrificial ceremony at least 10 minutes before the end of the period. (See SACRIFICE DAYS on pages 20-21.)

4. Remember that folders get turned in after the sacrifice. It is helpful to have an aide or parent in the room to help groups with their ROYAL INVENTORY and CENSUS during a sacrifice. You can save time by making adjustments on these forms while the sacrifice is taking place.

5. Inform the class of the valuables required for the Day 5 sacrifice—minerals, paper, and salt.

6. Be sure to include a new sheet of VALUABLES FOR TRADE for each group when you return the graded folders on Day 4, Day 6, and Day 9.

TT
TEACHING TIP
IMPORTANT
Read carefully.

7. ***Note:*** *As you grade folders after a sacrifice, you may wish to verify the figures on the INVENTORY and CENSUS by doing an accounting. Either have the corn and valuables turned in with each folder or verify the figures at each group's desks the following day. Award 10 bushels of corn for an accurate accounting; penalize 10 bushels for inaccurate forms.*

Day 4

1. Follow the DAILY TASK TIME TABLE and Directions from Day 2.

2. Introduce the second SECRET CODEX page.

3. Give each group their two NUMBER PROPHECY CARDS to place in its INFORMATION PACKET.

Day 5

1. Follow the DAILY TASK TIME TABLE and Directions from Days 2 and 3.

Day 6

1. Follow the DAILY TASK TIME TABLE and Directions from Day 2..

2. Introduce the third SECRET CODEX page.

3. Give each group their DEITY CARD to place in its INFORMATION PACKET.

4. Conduct the second sacrifice ceremony.

5. Advanced students begin research reports.

Day 7

1. Follow the DAILY TASK TIME TABLE and Directions from Day 2.
2. Advanced students continue with research reports.

Day 8

1. Follow the DAILY TASK TIME TABLE and Directions from Days 2 and 3.
2. Give teams their HEADDRESS PROJECT handout so that they can begin working on this activity.

Day 9

1. Follow the DAILY TASK TIME TABLE and Directions from Day 2.
2. Continue with headdress project and research reports.

Day 10

1. Follow the DAILY TASK TIME TABLE and Directions from Days 2 and 3.
2. Students should follow the directions in TEAM MEETING found in the Student Guide.
3. Celebrate with the final Grand Ceremony. (See Sacrifice Days in Teacher's Guide, pages 20-21.)

TT

TEACHING TIP

Make this as elaborate as you wish it to be. You may wish to invite parents so that their sons and daughters can demonstrate what they have learned about this intriguing civilization.

GRADING SUGGESTIONS - 1

TT

TEACHING TIP

Have these items handy when you begin correcting the folders: stapler, scissors, correcting pen, corn strips, blank forms including INVENTORY, CENSUS, LETTER OF INTRODUCTION, a schedule of trades, and a list of valuables.)

Try these ideas to streamline your paperwork:

1. Award five extra bushels of corn to the first three groups to hand in a properly completed folder. Hand out a corn strip but be sure to add the corn to the ROYAL CENSUS.

2. Staple together all of a group's corrected papers from a day's work (see #9). Always have students return the stapled papers from the previous day's work in their folder so you can compare figures from the inventory and census with current work.

3. Check yesterday's inventory items to see if they have been transcribed to the new inventory correctly. Save all art for decorating your room. Have students take home any form more than two days old so it will not become mixed up with current papers.

4. As you grade papers, keep a short list of each group's specific problems. This will help refresh your memory when you suggest ways each group can improve on the following day.

5. Grade at the same time the folders of the two cities that have traded together that day. Place their ROYAL INVENTORY SHEETS next to each other to verify trades and check that the numbers coincide. If they do not match, you will need to decide which inventory is correct and make changes on the incorrect inventory.

TT

TEACHING TIP

Keep a list of Valuables and a Trading Schedule handy when grading. This could help you clarify some confusing errors.

6. If both trading cities' ROYAL INVENTORY SHEETS are confusing or incorrect, you may write NT, or "no trade" next to the error and nullify the trade. The cities must then return their trading strips to each other. At any time you may call for a general accounting to assure that the trading strips coincide with the inventory. You may decide whether the inventory or the actual trading strips take precedent.

7. Write an okay next to the Today's Total if the inventory checks out correctly. For younger grades, you may want to transfer this figure to the next day's inventory.

8. Calculate the amount of corn earned by a city after awarding corn for each assignment worked correctly. Place the appropriate amount of corn in the folder to be returned. You may write this figure on the Earned Today line of the next day's CENSUS.

GRADING SUGGESTIONS - 2

TT

TEACHING TIP

Remind eager students that except for the LETTER OF INTRODUCTION, these forms should not be worked on until ***after*** *the Team Meeting.*

9. Staple together all of today's assignments with the ROYAL INVENTORY on top. Do not staple the art or the SECRET CODEX with the other forms. Place this packet of papers in the folder with a new ROYAL INVENTORY, CENSUS, and a blank LETTER OF INTRODUCTION. Be sure to write the city name and tomorrow's date on the new forms if you have chosen to fill in some of tomorrow's information. The new MAYAN MATH is always passed out after the Team Meeting.

10. On Days 4, 6, and 9 (after each sacrifice) don't forget to place a new VALUABLES FOR TRADE SHEET in each city's folder.

SACRIFICE DAYS - 1

TT

TEACHING TIP

Do not make these two pages into a handout to give your students. ***These pages are for teacher eyes only.***

For your eyes only—not your students!

Which days? Note on the Unit Time Chart that Days 3, 5, 8, and 10 are Sacrifice Days. Each of these days has specific required valuables which must be sacrificed to Chac—the great Mayan rain god, whose name is pronounced "Chalk."

The ceremony A team member must ceremoniously present to you the trading strips representing the valuables which his/her team wishes to sacrifice. This presenter then staples these trading strips in any order under his/her city's name on a **BOARD OF SACRIFICE**—which you have placed on a bulletin board. (The area may also be decorated with colorful team symbols.) Here is an example of an appropriate BOARD OF SACRIFICE:

Sacrifice Day	Palenque	Mayapan	Uxmal	Tulum	Chichen Itza	Tikal
3						
5						
8						
10						

Worthy or unworthy Teams may determine what quantity of each valuable they wish to sacrifice. (The more the better, according to Chac.) Corn may also be sacrificed as an added attempt to please Chac. If a team has traded well and acquired what was needed for a complete sacrifice, it may draw a fate card from the WORTHY SACRIFICE cards. If a team is unable to sacrifice all the required items, then it must select its fate from the UNWORTHY SACRIFICE cards.

Substitutions A team may substitute other valuables to replace those items members failed to obtain through trade. In its attempt to appease Chac, it is better for a team to substitute than to come up short on sacrifice day. The powerful rain god may also accept corn as a substitution. You will need to decide if a team has made a worthy substitution and assign the appropriate stack of fate cards from which a team may choose.

The simulation secret You must inform the class that no matter what sacrifice is given, one can never know the fate that Chac, the rain god, may assign. Never reveal the simulation secret—that both WORTHY and UNWORTHY FATE CARDS have exactly the same fates.

SACRIFICE DAYS - 2

Sacrificing valuables Here is a table detailing the valuables required for each sacrifice day. You should post in advance of the sacrifice day which valuable will be required on that specific day.

Sacrifice Day	Valuables Required for Sacrifice
3	Obsidian ... Idols (Zapotec or Toltec) ... Precious stones (Turquoise, Emeralds, or Jade)
5	Paper ... Salt ... Minerals (Gold, Silver, or Copper)
8	Jaguar Skins ... Quetzal Feathers ... Cotton ... Cacao ... Shells (Turtle or Conch)
10	Cacao ... Jade ... Gold ... Copper ... Emeralds ... Quetzal Feathers

Secret sacrifice option On Days 8 and 10—after the ceremony has begun—suddenly announce that one or two additional valuables have been added to the sacrifice. Name it or them.

The Ceremony itself Strive to instill as much believability into the sacrifice ceremony as you can. Try to obtain Mayan beads, flutes, and rattles to use. Or play a tape of Mayan music to add atmosphere.

VALUABLES TRADE LIST

These are the valuables found on the VALUABLES FOR TRADE pages of trading strips. Each city will receive one page of trading strips on Day 1, Day 4, Day 6, and again on Day 9.

Uxmal
- 10 Silver
- 20 Cacao beans
- 30 Zapotec idols

Chichen Itza
- 10 Copper rattles
- 20 Paper (made from fig tree bark)
- 30 Obsidian points

Mayapan
- 10 Gold
- 20 Cotton cloth
- 30 Toltec idols

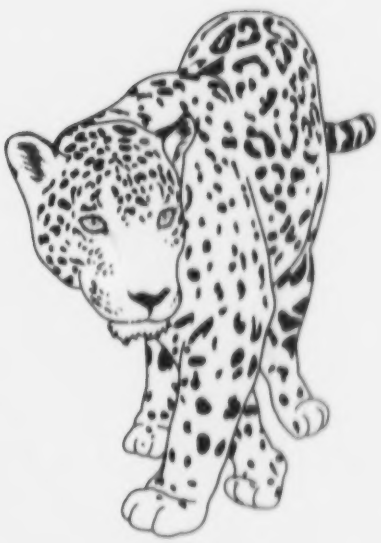
Tulum
- 10 Emeralds (from South America)
- 20 Salt
- 30 Turtle shells

Tikal
- 10 Jade
- 20 Jaguar skins
- 30 Conch shells

Palenque
- 10 Turquoise
- 20 Quetzal feathers
- 30 Obsidian points

Total number of valuables

Silver	10
Gold	10
Copper rattles	10
Turquoise	10
Emeralds	10
Jade	10
Cacao beans	20
Salt	20
Cotton cloth	20
Paper	20
Quetzal feathers	20
Jaguar skins	20
Turtle shells	30
Conch shells	30
Zapotec idols	30
Toltec idols	30
Obsidian points	60



20
Jaguar skins

TRADING SCHEDULES

The following list of schedules is handy to keep with you when grading the team folders. It is for your quick reference. Each city will have its personal schedule in its INFORMATION PACKET.

These schedules apply both to the trade of valuables by the Ambassadors and to the trade of knowledge by the High Priests.

Tikal

Days 1/6	Tulum
Days 2/7	Chichen Itza
Days 3/8	Mayapan
Days 4/9	Uxmal
Days 5/10	Palenque

Mayapan

Days 1/6	Palenque
Days 2/7	Tulum
Days 3/8	Tikal
Days 4/9	Chichen Itza
Days 5/10	Uxmal

Tulum

Days 1/6	Tikal
Days 2/7	Mayapan
Days 3/8	Uxmal
Days 4/9	Palenque
Days 5/10	Chichen Itza

Uxmal

Days 1/6	Chichen Itza
Days 2/7	Palenque
Days 3/8	Tulum
Days 4/9	Tikal
Days 5/10	Mayapan

Chichen Itza

Days 1/6	Uxmal
Days 2/7	Tikal
Days 3/8	Palenque
Days 4/9	Mayapan
Days 5/10	Tulum

Palenque

Days 1/6	Mayapan
Days 2/7	Uxmal
Days 3/8	Chichen Itza
Days 4/9	Tulum
Days 5/10	Tikal

COMPARATIVE CULTURES RESEARCH REPORT

If you have time and older or more advanced students ...

If this is the case, you may want to assign a research report for teams to present orally to the class during the second week. (See the Unit Time Chart on page 9.) Have teams pick their topics early in the unit so that members have time to complete the necessary research. Here are directions for the report:

1. Group members will share their research and work together while planning and presenting this oral presentation.

2. They will compare/contrast their chosen culture with the Mayan culture.

3. Teams should select one of the following cultures to compare/contrast with the Maya: ... Aztec ... Inca ... any North American Indian tribe ... classical Greek ... early Egyptian ... ancient China or Japan ... European culture between A.D. 600 and A.D. 1200 ... modern North American culture ...

4. Topics such as the following may be divided among group members as they plan their comparing and contrasting of the two cultures: ... architecture ... medicine and diet ... religion ... money and trade ... math and science ... climate and clothing ... hierarchy of society (top to bottom) with various life styles ...

5. Each student should present two or three similarities or differences between the topics in #4 (e.g., similarities/differences in *architecture*).

6. The generalizations made in #5 should be backed up with specific details. Whenever possible, sources for the comparisons/contrasts should be given.

7. Presentation days will be Days 6, 7, and 9.

8. The presentations may be read or acted out. Encourage students to be *dramatic* and to use visual aids.

TT

TEACHING TIP

*Note the words "**If this is the case, you may want**" ... Although this is a valuable project, it will take considerable time. Keep this certainty in mind while deciding whether or not to include such team reports in this MAYA unit.*

If you choose to have these reports, during presentation days shorten or cancel team meetings. Another way to increase time for the presentations is to limit trading time to 5 minutes and to assign unfinished art work and math as homework.

ROYAL INVENTORY SHEET

Date: _____ Mayan Date: _____

City: _____

Prepared by Ambassador: _____

Checked by Noble Lord: _____

List of today's trades with the city of _____

Number	Item		Number	Item
_____	_____	for	_____	_____
_____	_____	for	_____	_____
_____	_____	for	_____	_____
_____	_____	for	_____	_____

Our Inventory (what we own):

Item	Yesterday's Amt.		Traded/Earned/ Sacrificed		Today's Amt.
Gold	_____	+ (−)	_____	=	_____
Silver	_____	+ (−)	_____	=	_____
Copper	_____	+ (−)	_____	=	_____
Turquoise	_____	+ (−)	_____	=	_____
Emeralds	_____	+ (−)	_____	=	_____
Jade	_____	+ (−)	_____	=	_____
Cacao	_____	+ (−)	_____	=	_____
Salt	_____	+ (−)	_____	=	_____
Cotton	_____	+ (−)	_____	=	_____
Paper	_____	+ (−)	_____	=	_____
Quetzal feathers	_____	+ (−)	_____	=	_____
Jaguar skins	_____	+ (−)	_____	=	_____
Turtle shells	_____	+ (−)	_____	=	_____
Conch shells	_____	+ (−)	_____	=	_____
Zapotec idols	_____	+ (−)	_____	=	_____
Toltec idols	_____	+ (−)	_____	=	_____
Obsidian points	_____	+ (−)	_____	=	_____

CREATING A STELA - 1

What is a stela?

A stela is a large Mayan stone carving, usually done in bas-relief. It frequently depicts historical aspects of a city. Stelae sit vertically on the ground much like a totem pole and many are well over 10 feet tall and weigh several tons. The carvings depict famous people and gods with hieroglyphic inscriptions identifying the date and events that are being commemorated. Much of what is known about the Mayan Empire was discovered by reading ancient stelae. (See stela examples on the next page.)

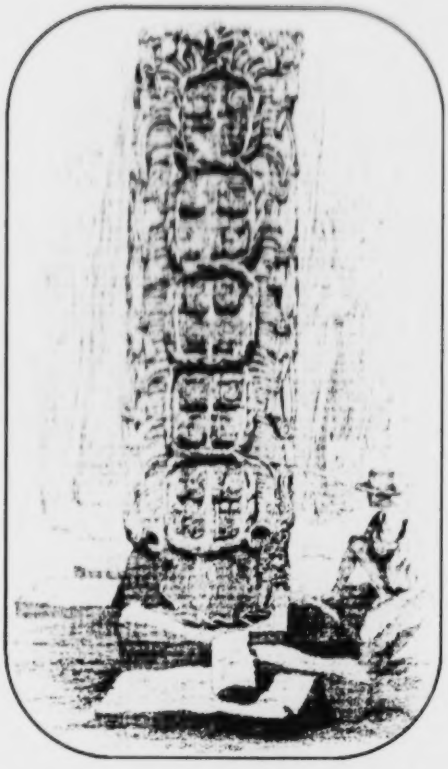
Team building

Each team will create a paper stela for its city. This activity will help all of you to learn more about your Mayan team members.

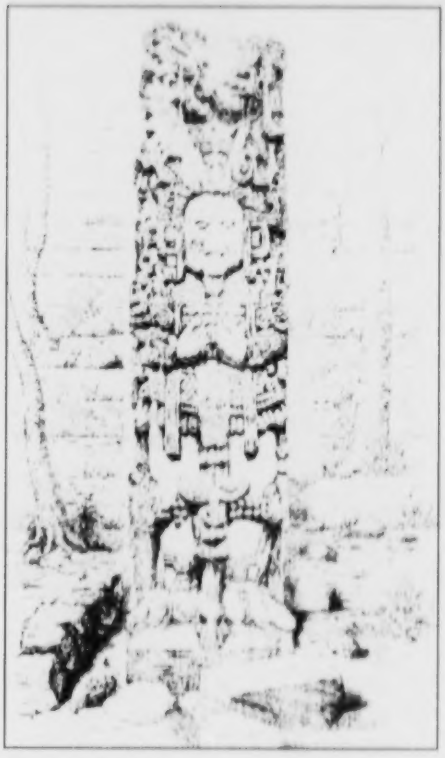
Directions

1. First, each team member selects a different Mayan god from those in the left column.
2. Each member next makes a line drawing of his/her Mayan god on an 8 and 1/2" x 11" sheet of drawing paper. (If time is short or you are a young class, your teacher may have enlarged copies of these gods for you to choose from.) ***Note:*** *Do not begin coloring the god yet!)*
3. Team members, under your illustration, write your own name—not the god's name—and a special personal quality that you will bring to your group. ***(Examples:*** *dependable, helpful, innovative, honest, humorous, artistic, clever, friendly, cheerful, verbal, hard-working, persistent,* or *good at a particular subject.)*
4. Now you have five minutes to begin coloring your art. You do not need to finish in this time, for every five minutes your art is passed to a teammate on the right to continue with the coloring. Continue this passing and coloring until each team member has had five minutes to work on each piece of art. Your team should finish the drawings after each art piece has been returned to its original team member.
6. Individual team members should then introduce to the rest of the team the teammate sitting to his/her right. Introductions should include the personal quality of the person being introduced. ***(Example:*** *"This is Anthony, and he will help our group because he is persistent.")*
7. Finally, a team member should tape or staple all the groups' full-page drawings together, top to bottom, forming a long column topped with the name of the team's city.
8. Display this stela proudly near your team meeting area by taping the stela to a nearby wall or hanging it from the ceiling.

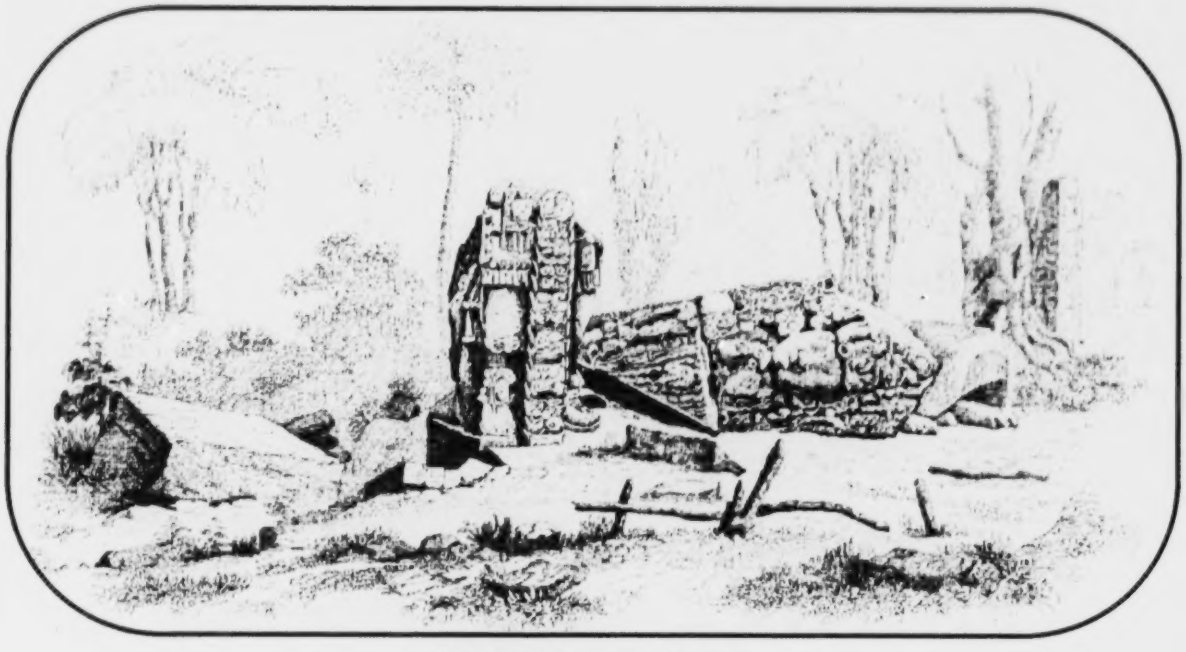
CREATING A STELA - 2



Ringed glyphs on Copan stela



Stela in front of Copan stairs



Fallen stela at Copan

Ambassador's Letter of Introduction

Date: _____ Mayan Date: _____

This letter is to introduce the honored **Ambassador** of the City of _____ . We are the people of this honored city:

	MAYAN name	REAL name
Noble Lord	_____	_____
High Priest	_____	_____
Ambassador	_____	_____
Mathematician	_____	_____
Scribe	_____	_____

Our **Noble Lord** wishes to open trade with the **Noble Lord** of the city of _____ .

Things we need	Things we can trade:
_____	_____
_____	_____
_____	_____

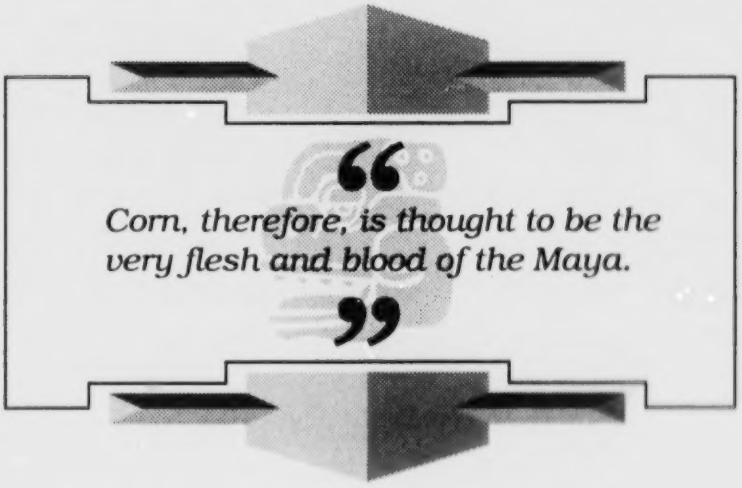
I have read this letter, and I am willing to conduct trade.

Signed: _____

Ambassador of trading city

LIFE FROM CORN

Mayan creation The *Popol Vuh*, a sacred Mayan book, explains the creation of mankind. At first the gods attempted to create humans from clay and then from wood. Neither was to the liking of the gods, for these humans did not have the intelligence to thank the gods for their creation. Finally, mankind was successfully created from corn. Corn, therefore, is thought to be the very flesh and blood of the Maya.



Organize for success An important part of any culture is for its leaders to successfully organize people to work together for the production and storage of food. For the Mayan civilization, corn was that significant food source that was a regular part of their diet. Corn, which is also called maize, eaten with beans and squash made a fairly complete nutritional meal. The more corn that could be produced, the greater population a city could support. Storage techniques allowed farmers to "bank" their corn during years of plenty, thus providing a ready food supply during years of poor corn production.

A turning wheel Fields were cleared by burning the natural vegetation. The corn was then planted among the fertile ashes. With adequate rainfall a bountiful crop could be produced the first year. But as nutrients in the soil were depleted, corn harvests became smaller. After a few years of working the same field, farmers would give the old fields back to the jungle. Then they would move on and prepare new fields by burning. Over the years, farmers would work their way around the Mayan cities like a wheel turning around its hub. As long as new land could be cleared and farmed, noble lords could supply the corn needed to feed the people of their thriving city.

How to succeed in this simulation During MAYA you will be producing the corn necessary to increase the population of your city. You will earn corn by successfully completing your daily assignments, by working well with your teammates, and by making wise trading decisions with the other teams. As the simulation begins, your teacher will explain the specific assignments you will complete in order to earn your valuable corn.

Directions

1. When the LIFE FROM CORN selection has been read, give the questions below as an oral quiz.
2. Have students correct their own papers as you orally give the answers.
3. Ask the Noble Lords to check team members' papers to insure that everyone now understands the correct answers.
4. Have the Noble Lords turn in only their own answer sheets.
5. Give each team 75 bushels of corn for its effort.

CORN QUIZ

Questions

1. From what substance did the Mayan gods successfully create human beings?

2. What is the key element of any civilization?

3. What other foods did the Maya eat with their corn?

4. How did the Maya farmers clear their fields?

5. Why would farmers move to new fields every few years?

Answers

1. corn

2. organize people for the production of food

3. beans and squash

4. burning

5. Nutrients in the soil were used up.

CORN TRADING STRIPS

5	C	O	R	N
5	C	O	R	N
5	C	O	R	N
5	C	O	R	N
5	C	O	R	N
5	C	O	R	N
5	C	O	R	N
5	C	O	R	N
5	C	O	R	N
5	C	O	R	N
5	C	O	R	N
5	C	O	R	N
5	C	O	R	N
5	C	O	R	N
5	C	O	R	N
5	C	O	R	N

ROYAL CENSUS SHEET

Date: _____ Mayan Date: _____

City: _____

Mathematician: _____

		Corn	Population
Yesterday's:		_____	_____
Earned today:	+	_____	
	=	_____	
Imported:			
Gained by trade	+	_____	
	=	_____	
Exported:			
Traded away	-	_____	
	=	_____	
Penalty or Sacrifice	-	_____	

Today's corn: = _____ x 5 = _____ People

I have checked this ROYAL CENSUS, and I certify that it is correct.

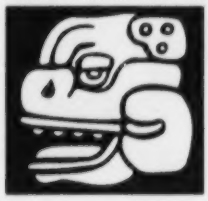
Signed: _____

Noble Lord

TEAM ROLE SCHEDULE

Team: _____

Role	Noble Lord	High Priest	Ambassador	Mathematician	Scribe
Day:					
Day:					
Day:					
Day:					
Day:					
Day:					
Day:					
Day:					
Day:					
Day:					
Day:					
Day:					
Day:					
Day:					
Day:					
Day:					



UXMAL VALUABLES FOR TRADE

Zapotec Idols	Zapotec Idols	Zapotec Idols	Zapotec Idols	Zapotec Idols
Zapotec Idols	Zapotec Idols	Zapotec Idols	Zapotec Idols	Zapotec Idols
Zapotec Idols	Zapotec Idols	Zapotec Idols	Zapotec Idols	Zapotec Idols
Cacao Beans	Cacao Beans	Cacao Beans	Cacao Beans	Cacao Beans
Cacao Beans	Cacao Beans	Cacao Beans	Cacao Beans	Cacao Beans
Silver	Silver	Silver	Silver	Silver
Zapotec Idols	Zapotec Idols	Zapotec Idols	Zapotec Idols	Zapotec Idols
Zapotec Idols	Zapotec Idols	Zapotec Idols	Zapotec Idols	Zapotec Idols
Zapotec Idols	Zapotec Idols	Zapotec Idols	Zapotec Idols	Zapotec Idols
Cacao Beans	Cacao Beans	Cacao Beans	Cacao Beans	Cacao Beans
Cacao Beans	Cacao Beans	Cacao Beans	Cacao Beans	Cacao Beans
Silver	Silver	Silver	Silver	Silver

TULUM VALUABLES FOR TRADE

Turtle Shells	Turtle Shells	Turtle Shells	Turtle Shells	Turtle Shells
Turtle Shells	Turtle Shells	Turtle Shells	Turtle Shells	Turtle Shells
Turtle Shells	Turtle Shells	Turtle Shells	Turtle Shells	Turtle Shells
Salt	Salt	Salt	Salt	Salt
Salt	Salt	Salt	Salt	Salt
Emeralds	Emeralds	Emeralds	Emeralds	Emeralds
Turtle Shells	Turtle Shells	Turtle Shells	Turtle Shells	Turtle Shells
Turtle Shells	Turtle Shells	Turtle Shells	Turtle Shells	Turtle Shells
Turtle Shells	Turtle Shells	Turtle Shells	Turtle Shells	Turtle Shells
Salt	Salt	Salt	Salt	Salt
Salt	Salt	Salt	Salt	Salt
Emeralds	Emeralds	Emeralds	Emeralds	Emeralds

PALENQUE VALUABLES FOR TRADE

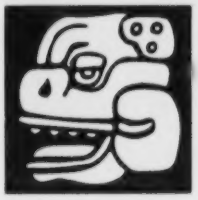
Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points
Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points
Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points
Quetzal Feathers	Quetzal Feathers	Quetzal Feathers	Quetzal Feathers	Quetzal Feathers
Quetzal Feathers	Quetzal Feathers	Quetzal Feathers	Quetzal Feathers	Quetzal Feathers
Turquoise	Turquoise	Turquoise	Turquoise	Turquoise
Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points
Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points
Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points
Quetzal Feathers	Quetzal Feathers	Quetzal Feathers	Quetzal Feathers	Quetzal Feathers
Quetzal Feathers	Quetzal Feathers	Quetzal Feathers	Quetzal Feathers	Quetzal Feathers
Turquoise	Turquoise	Turquoise	Turquoise	Turquoise

TIKAL VALUABLES FOR TRADE

Conch Shells	Conch Shells	Conch Shells	Conch Shells	Conch Shells
Conch Shells	Conch Shells	Conch Shells	Conch Shells	Conch Shells
Conch Shells	Conch Shells	Conch Shells	Conch Shells	Conch Shells
Jaguar Skins	Jaguar Skins	Jaguar Skins	Jaguar Skins	Jaguar Skins
Jaguar Skins	Jaguar Skins	Jaguar Skins	Jaguar Skins	Jaguar Skins
Jade	Jade	Jade	Jade	Jade
Conch Shells	Conch Shells	Conch Shells	Conch Shells	Conch Shells
Conch Shells	Conch Shells	Conch Shells	Conch Shells	Conch Shells
Conch Shells	Conch Shells	Conch Shells	Conch Shells	Conch Shells
Jaguar Skins	Jaguar Skins	Jaguar Skins	Jaguar Skins	Jaguar Skins
Jaguar Skins	Jaguar Skins	Jaguar Skins	Jaguar Skins	Jaguar Skins
Jade	Jade	Jade	Jade	Jade

MAYAPAN VALUABLES FOR TRADE

Toltec Idols	Toltec Idols	Toltec Idols	Toltec Idols	Toltec Idols
Toltec Idols	Toltec Idols	Toltec Idols	Toltec Idols	Toltec Idols
Toltec Idols	Toltec Idols	Toltec Idols	Toltec Idols	Toltec Idols
Cotton Cloth	Cotton Cloth	Cotton Cloth	Cotton Cloth	Cotton Cloth
Cotton Cloth	Cotton Cloth	Cotton Cloth	Cotton Cloth	Cotton Cloth
Gold	Gold	Gold	Gold	Gold
Toltec Idols	Toltec Idols	Toltec Idols	Toltec Idols	Toltec Idols
Toltec Idols	Toltec Idols	Toltec Idols	Toltec Idols	Toltec Idols
Toltec Idols	Toltec Idols	Toltec Idols	Toltec Idols	Toltec Idols
Cotton Cloth	Cotton Cloth	Cotton Cloth	Cotton Cloth	Cotton Cloth
Cotton Cloth	Cotton Cloth	Cotton Cloth	Cotton Cloth	Cotton Cloth
Gold	Gold	Gold	Gold	Gold



CHICHEN ITZA VALUABLES FOR TRADE

Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points
Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points
Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points
Paper Sheets	Paper Sheets	Paper Sheets	Paper Sheets	Paper Sheets
Paper Sheets	Paper Sheets	Paper Sheets	Paper Sheets	Paper Sheets
Copper Rattles	Copper Rattles	Copper Rattles	Copper Rattles	Copper Rattles
Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points
Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points
Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points	Obsidian Points
Paper Sheets	Paper Sheets	Paper Sheets	Paper Sheets	Paper Sheets
Paper Sheets	Paper Sheets	Paper Sheets	Paper Sheets	Paper Sheets
Copper Rattles	Copper Rattles	Copper Rattles	Copper Rattles	Copper Rattles

City of: _____ Mayan Date: _____

The Numbers	The Names of the Days
0 =	
1 =	1 =
2 =	2 =
3 =	3 =
4 =	4 =
5 =	5 =
6 =	6 =
7 =	7 =
8 =	8 =
9 =	9 =
10 =	10 =
11 =	11 =
12 =	12 =
13 =	13 =
14 =	14 =
15 =	15 =
16 =	16 =
17 =	17 =
18 =	18 =
19 =	19 =
20 =	20 =

Noble Lord: _____ Mathematician: _____

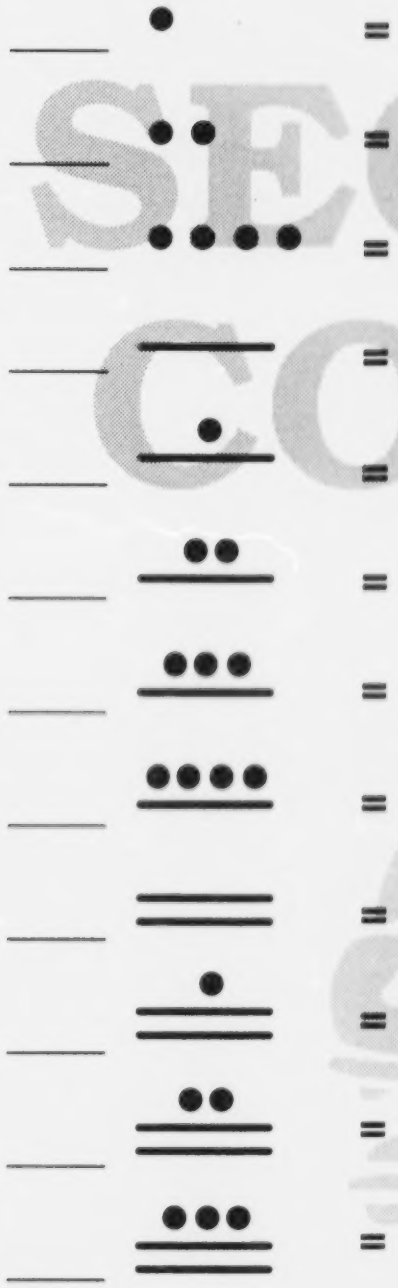
High Priest: _____ Scribe: _____

Ambassador: _____

SECRET CODEX

City of: _____ Mayan Date: _____

The prophecies of the numbers are ...



SECRET CODEX 2

Noble Lord: _____ Mathematician: _____

High Priest: _____ Scribe: _____

Ambassador: _____

City of: _____ Mayan Date: _____

Name these seven MAYAN Gods:

_____ Head of the Mayan Gods

_____ God of Rain

_____ Goddess of Childbirth and Weaving

_____ God of Death

_____ God of Merchants

_____ God of the North Star and Travelers

_____ God of Corn

Note: *On the back of this sheet or attached sheets of paper draw illustrations of each of the above gods.*

Noble Lord: _____ Mathematician: _____

High Priest: _____ Scribe: _____

Ambassador: _____

SECRET CODEX 3

MAYAN MATH—TASK 1

Mathematician _____ Date _____

Mayan City _____ Mayan date _____

1. Eight farmers worked a total of 56 hours in their fields. If each farmer worked an equal amount of time, how many hours did each farmer work?

2. Today you find 37 shells. You already had 56 shells. A friend gives you 5 more shells. How many shells in all do you have?

3. If your city has a population of 9,372 and another city has a population of 8,785, what is the population of both cities?

4. If you have 87 emeralds, 76 pieces of jade, and 132 pieces of turquoise, how many stones do you have in all?

5. If you have 2,941 bushels of corn and 1,256 bushels are eaten by people and 23 bushels are eaten by rats, how many bushels are left?

Show your work!

Checked by Noble Lord

_____

MAYAN MATH—TASK 2 (Practice Problem)

Mathematician _____ Date _____

Mayan City _____ Mayan date _____

Deductive Reasoning: Mayan Farmers

Directions:
This mathematician's skill sheet that will challenge your deductive reasoning abilities. Use your deductive reasoning skills by reading each clue carefully. Then start eliminating the impossibilities until you arrive at one final answer. Using the chart will help you.

Problem:
Kan, Cib, and Oc are farmers. Each grows a different crop. (None of the farmers grows two crops.) One grows corn, one grows beans, and one grows squash.

Kan and Cib do not grow squash. Cib and Oc do not grow beans. Who grows each crop?

Extra credit: Name the god in the above picture. How can he help the children?

	Beans	Corn	Squash
Kan =			
Cib =			
Oc =			

Checked by Noble Lord

_____

MAYAN MATH—TASK 2 (Deductive Reasoning)

Mathematician _____ Date _____

Mayan City _____ Mayan date _____

Deductive Reasoning: Mayan Children

Directions:
This mathematician's skill sheet that will challenge your deductive reasoning abilities. Use your deductive reasoning skills by reading each clue carefully, then start eliminating the impossibilities until you arrive at one final answer. Using the chart will help you. Write NO in the spaces that can be eliminated. If you discover an answer by process of elimination then write YES in the box. You can then write NO in each of the other boxes in that column or row.

Four Mayan children know what they want to be when they grow up. Ahkul, Buuc, Cim, and Duh Kol want to become Noble Lord, High Priest, Ambassador, and Mathematician.

1. Ahkul and Cim don't want to be High Priest.
2. Duh Kol and Cim say Ambassadors travel too much.
3. Buuc hates math. He says he will work hard for his leader, the Noble Lord.
4. Cim and Duh Kol would rather not be Noble Lord.

Extra credit: Name the god in the above picture. How can he help the children?

	Noble Lord	High Priest	Ambassador	Mathematician
Ahkul				
Buuc				
Cim				
Duh Kol				

Checked by Noble Lord

MAYAN MATH—TASK 3

Mathematician _____ Date _____

Mayan City _____ Mayan date _____

1. A Mayan cornfield produces 859 bushels of corn the first year, 773 bushels the second year, and only 546 bushels the third year. How many bushels were produced in three years?

2. How many more bushels were produced in the first year than in the third year?

3. In the third year, eight farmers worked to harvest the corn. How many bushels of corn did each farmer harvest if each farmer produced the same amount?

4. A Mayan merchant sold 37 gold idols every day for 24 days. How many gold idols did the merchant sell?

5. One Noble Lord divided equally 136 precious stones among his four daughters. How many precious stones did each daughter receive?

Checked by Noble Lord

_____

Show your work!

MAYAN MATH—TASK 4

Mathematician _____ Date _____

Mayan City _____ Mayan date _____

1. The first day of Maya was 1 Imix. Since this is day 4 the Mayan date is 4 Kan. What was the Mayan date yesterday?

   _____

2. Using the information in question 1, what will the Mayan date be tomorrow?

   _____

3. If 9 crates of salt are traded for 144 Toltec idols, how many idols is each crate worth?

4. = _____?

5. = _____?

Checked by Noble Lord

_____

MAYAN MATH—TASK 4 (Deductive Reasoning)

Mathematician _____ Date _____

Mayan City _____ Mayan date _____

Deductive Reasoning: Favorite Sacrifices

Directions: This mathematician's skill sheet that will challenge your deductive reasoning abilities. Use your deductive reasoning skills by reading each clue carefully, then start eliminating the impossibilities until you arrive at one final answer. Using the chart will help you. Write NO in the spaces that can be eliminated. If you discover an answer by process of elimination then write YES in the box. You can then write NO in each of the other boxes in that column or row.

The favorite sacrifices of Chac, Puch, Ah Mun, and Pal Laab Dul are jade, paper, emeralds, and cacao. What is the favorite sacrifice of each?

1. Puch and Pal Laab Dul do not like jade.
2. Chac and Puch do not like emeralds.
3. No one likes sacrifices that begin with the same letter his/her name begins with.
4. Chac deems paper to be insufficient.

	Jade	Paper	Emerald	Cacoa
Chac				
Puch				
A Mun				
Pal Laab Dul				

Extra credit: Which Mayan cities in this simulation produce these valuables?

Checked by Noble Lord

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MAYAN MATH—TASK 5

Mathematician _____ Date _____

Mayan City _____ Mayan date _____

1. Five Mayans grew 18 bushels of corn each. How many bushels did they all grow together?

2. An old Mayan priest had 26 pieces of gold. He sacrificed 3 pieces, traded 9 pieces, then he gave away 2 as a gift. How many pieces of gold does he have left?

3. Four Mayan families ate a total of 28 bushels of corn in one year. If each family ate an equal amount, how many bushels did one family eat in a year??

4. If you had 897 Toltec idols and 436 Zapotec idols, how many idols do you have?

5. The population of Mayapan is 8,477. Then 579 Mayans move away. How many Mayans are left?

Checked by Noble Lord

Show your work!

_____

MAYAN MATH—TASK 6

Mathematician _____ Date _____

Mayan City _____ Mayan date _____

1. The first day of Maya was 1 Imix. Since this is day 6 the Mayan date is 6 Cimi. What will be tomorrow's Mayan date?

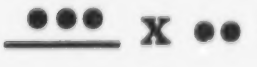
   _____

2. Using the information in question 1, what will the Mayan date be eight days from today?

   _____

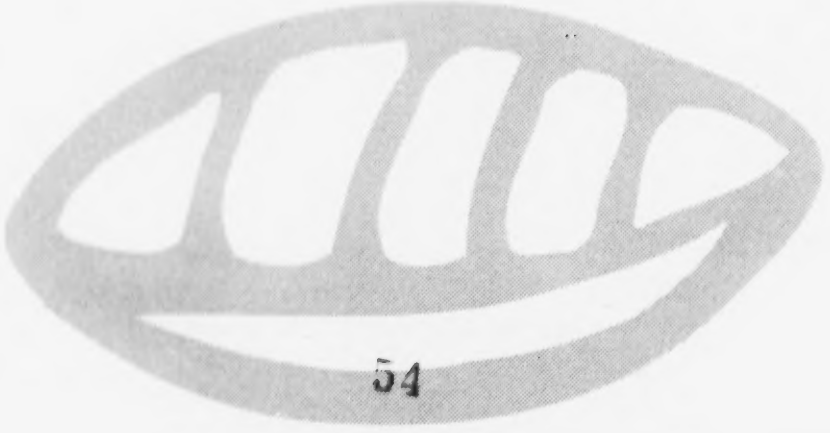
3. You give 14 Toltec traders a gift of 12 pieces of jade for each person. How many pieces of jade did you give to the traders?

4. = _____ ?

5.  = _____ ?

Checked by Noble Lord

_____



MAYAN MATH—TASK 6 (Deductive Reasoning)

Mathematician _____ Date _____

Mayan City _____ Mayan date _____

Deductive Reasoning: Birthdays

Directions: This mathematician's skill sheet that will challenge your deductive reasoning abilities. Use your deductive reasoning skills by reading each clue carefully, then start eliminating the impossibilities until you arrive at one final answer. Using the chart will help you. Write NO in the spaces that can be eliminated. If you discover an answer by process of elimination then write YES in the box. You can then write NO in each of the other boxes in that column or row.

Four Mayan children have birthdays today. Their ages are 4, 8, 10, and 13. Their names are Keh, Cuzam, Ah Kin, and Tzab. How old is each child?

1. Ah Kin is older than Tzab.
2. Ah Kin is younger than Keh.
3. Cuzam is younger than Ah Kin.
4. Cuzam is older than Tzab.

	4	8	10	13
Keh				
Cuzam				
Ah Kim				
Tzab				

Extra credit: What is the Mayan prophecy of the age of each child?

Checked by Noble Lord

MAYAN MATH—TASK 7

Mathematician _____ Date _____

Mayan City _____ Mayan date _____

1. While building a temple, workers brought in 8,742 stones the first week, 9,514 stones the second week, and 7,782 stones the third week. How many stones did they bring in during that time?

2. Workers must carry the stones 26 kilometers from the quarry to the temple, one way. If they made 35 round trips this week, how far did they travel?

3. A team of workers can carry 265 stones in a single trip. If they make 36 trips this week, how many stones will they carry?

4. The work team was paid 312 bushels of corn for a Mayan month of labor. If the team divides the corn equally between the 13 team members, how much corn will each member receive?

5. Luub sells chickens at the market. She has 13 brown chickens, 15 white chickens, and 12 red ones. If she sells each chicken for 5 pieces of obsidian, how much obsidian will she have if she sells all her chickens?

Show your work!

Checked by Noble Lord

_____

MAYAN MATH—TASK 8

Mathematician _____ Date _____

Mayan City _____ Mayan date _____

1. The first day of Maya was 1 Imix. Since this is day 8 the Mayan date is 8 Lamat. What will be the Mayan date 5 days from today?

   _____

2. Using the information in question 1, what will the Mayan date be 42 days from today?

   _____

3. You sacrifice 16 pieces of silver every day for 5 days in a row. How many pieces of silver did you sacrifice in all?

4. ÷ ●●●● = _____?

5. x + ●●● = _____?

Checked by Noble Lord

_____

MAYAN MATH—TASK 8 (Deductive Reasoning)

Mathematician _____ Date _____

Mayan City _____ Mayan date _____

Deductive Reasoning: Mayan Cities

Directions: This mathematician's skill sheet that will challenge your deductive reasoning abilities. Use your deductive reasoning skills by reading each clue carefully, then start eliminating the impossibilities until you arrive at one final answer. Using the chart will help you. Write NO in the spaces that can be eliminated. If you discover an answer by process of elimination then write YES in the box. You can then write NO in each of the other boxes in that column or row.

Loc, Poc, Doc, and Muc live in Tulum, Palenque, Chichen Itza, and Mayapan. Where does each Mayan live?

1. Loc visited Mayapan once.
2. Poc and Doc have never seen El Castillo in Chichen Itza.
3. Loc and Doc do not live in a coastal city.
4. Muc lives in a city with a single name.
5. Poc gets lonely living farthest from the others.

	Tulum	Palenque	Chichen Itza	Mayapan
Loc				
Poc				
Doc				
Muc				

Extra credit: In MAYA which is the most precious valuable each of these cities produces?

Checked by Noble Lord

_____

MAYAN MATH—TASK 9

Mathematician _____ Date _____

Mayan City _____ Mayan date _____

1. Merchants from Tulum traded 891 bushels of corn for 9 emeralds. If each emerald has the same value, how much corn was each emerald worth?

2. A high priest counted 5,200 foot steps around his city's great pyramid. If the pyramid has 4 sides of equal length, how many footsteps were on a side?

3. At the rock quarry you found 84 pieces of jade last week and 75 pieces this week. You sold 22 pieces yesterday and lost 1 piece today. How many pieces of jade do you now have?

4. Tulum is 147 kilometers away. Mayapan is 58 kilometers away. How much farther away is Tulum?

5. A Noble Lord is paid a tribute of 18 bushels of corn every day for 31 days in a row. How much corn will he receive?

Show your work!

Checked by Noble Lord

_____

MAYAN MATH—TASK 10

Mathematician _____ Date _____

Mayan City _____ Mayan date _____

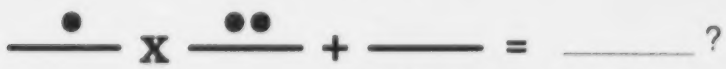
1. This is the 10th day of Maya. What is the Mayan date for this day?

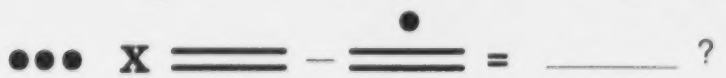
   _____

2. Using the information in question 1, what will the Mayan date be 13 days from today?

   _____

3. A stone carver worked 252 days to create 3 stelae. He spent the same amount of time on each stela. How many days did he work on each one?

4.  ?

5.  ?

Checked by Noble Lord

_____

Show your work!

MAYAN MATH—TASK 10 (Deductive Reasoning)

Mathematician _____ Date _____

Mayan City _____ Mayan date _____

Deductive Reasoning: Mayan Jobs

Directions: This mathematician's skill sheet that will challenge your deductive reasoning abilities. Use your deductive reasoning skills by reading each clue carefully, then start eliminating the impossibilities until you arrive at one final answer. Using the chart will help you. Write NO in the spaces that can be eliminated. If you discover an answer by process of elimination then write YES in the box. You can then write NO in each of the other boxes in that column or row.

Pop, Lop, Hop, and Luuc each have a different job. They work as a stone carver, warrior, farmer, and merchant. What is each worker's job?

1. Luuc and Pop have no artistic skill.
2. Lop and Luuc cannot stand the sight of blood.
3. Pop and Luuc never learned to count.
4. Pop and Hop travel a lot.

	Stone Carver	Warrior	Farmer	Merchant
Pop				
Lop				
Hop				
Luuc				

Extra credit: Name each worker's favorite Mayan god—Yum Cimil, Ek Chuah, Ah Mun, or Itzamna?

Checked by Noble Lord

MAYAN MATH ANSWERS (Teacher eyes only)

Day 1
1. 7 hours
2. 98 shells
3. 18,157 people
4. 295 stones
5. 1,662 bushels of corn

Day 2
Deductive Reasoning Practice Problem
- Kan = beans
- Cib = corn
- Oc = squash

Mayan Children
- Ahkul = Noble Lord
- Buuc = Ambassador
- Cim = Mathematician
- Duh Kol = High Priest

Day 3
1. 2,178 bushels of corn
2. 313 bushels of corn
3. 69 bushels of each of 2 left over
4. 888 gold idols
5. 34 precious stones

Day 4
1. 3 Akbal
2. 5 Chicchan
3. 1 crate = 16 idols
4. 58
5. 98

Favorite sacrifices
- Chac = jade
- Puch = cacao
- Ah Mun = paper
- Pal Laab Dul = emeralds

Day 5
1. 90 bushels of corn
2. 12 pieces of gold
3. 7 bushels of corn
4. 1,333 idols
5. 7,898 Mayans

Day 6
1. 7 Manik
2. 1 Ix
3. 168 pieces of jade
4. 45
5. 4

Birthdays
- Ken = 13
- Cuzam = 8
- Ah Kin = 10
- Tzab = 4

Day 7
1. 26,038
2. 1820 kilometers
3. 9,540 stones
4. 24 bushels of corn
5. 200 pieces of obsidian

Day 8
1. 13 Ben
2. 11 Oc
3. 80 pieces of silver
4. 4
5. 59

Mayan Cities
- Loc = Chichen Itza
- Poc = Palenque
- Doc = Mayapan
- Muc = Tulum

Day 9
1. 99 bushels of corn
2. 1,300 footsteps
3. 136 pieces of jade
4. 89 kilometers
5. 558 bushels of corn

Day 10
1. 10 Oc
2. 10 Akbal
3. 84 days
4. 47
5. 19

Mayan jobs
- Pop = warrior
- Lop = stone carver
- Hop = merchant
- Luuc = farmer

ANSWER KEY

FATE CARDS: Unworthy Sacrifices

Cut apart and laminate—if possible.

Chac thinks that your sacrifice should have been better. Mild rains let you grow only enough corn to meet your consumption. No gain or loss.

Maybe your sacrifice could have been a little better, but Chac has been busy making rain. You grow 20 bushels of corn. You are indeed lucky Chac was not insulted.

Chac deems your sacrifice to be insufficient. Poor rainfall means not enough to eat. Lose 10 bushels of corn.

Clouds cover your city and Chac allows the rain to fall. Your corn harvest is 10 bushels.

Chac is happy with your sacrifice. Great amounts of corn have been harvested. You harvest 30 bushels.

How dare you insult the great rain god Chac with your measly little sacrifice. A dry spell means you lose 10 bushels of corn.

Chac demonstrates his generosity with heavy rainfalls. He hopes you will demonstrate your generosity at the next celebration. Your harvest is 30 bushels.

The rain god Chac has provided your city with enough rain to grow enough corn for 20 bushels.

Chac awards your efforts to please him with good rainfall. Your harvest is 20 bushels.

Chac knows you could have been more generous with your sacrifice. Light rainfall means you only grow enough corn to meet consumption. No gain or loss.

FATE CARDS: Worthy Sacrifices

Cut apart and laminate—if possible.

Chac demonstrates his generosity with heavy rainfalls. He hopes you will demonstrate your generosity at the next celebration. Your corn harvest is 30 bushels.

Chac deems your sacrifices to be insufficient. Poor rainfall means not enough to eat. Lose 10 bushels of corn.

Chac awards your efforts to please him with good rainfall. Your harvest is 20 bushels.

Maybe your sacrifice could have been a little better, but Chac has been busy making rain. You grow 20 bushels of corn. You are indeed lucky that Chac was not insulted.

Chac is happy with your sacrifices. Great amounts of corn have been harvested. You harvest 30 bushels.

Clouds cover your city and Chac allows the rain to fall. Your corn harvest is 10 bushels.

The rain god Chac has provided your city with enough rain to grow enough corn for 20 bushels.

Chac thinks that your sacrifice should have been better. Mild rains let you grow only enough corn to meet your consumption. No gain or loss.

How dare you insult the great rain god Chac with your measly little sacrifice. A dry spell means you lose 10 bushels of corn.

Chac knows you could have been more generous with your sacrifice. Light rainfall means you only grow enough corn to meet consumption. No gain or loss.

HEADDRESS PROJECT - 1

The Final Grand Ceremony

This celebration honors the Mayan Empire's cities great leaders. Each city must construct a magnificent headdress of many colorful feathers for this event. (The city's greatness of is symbolized by the glorious and elaborate headdress its Noble Lords wears.)

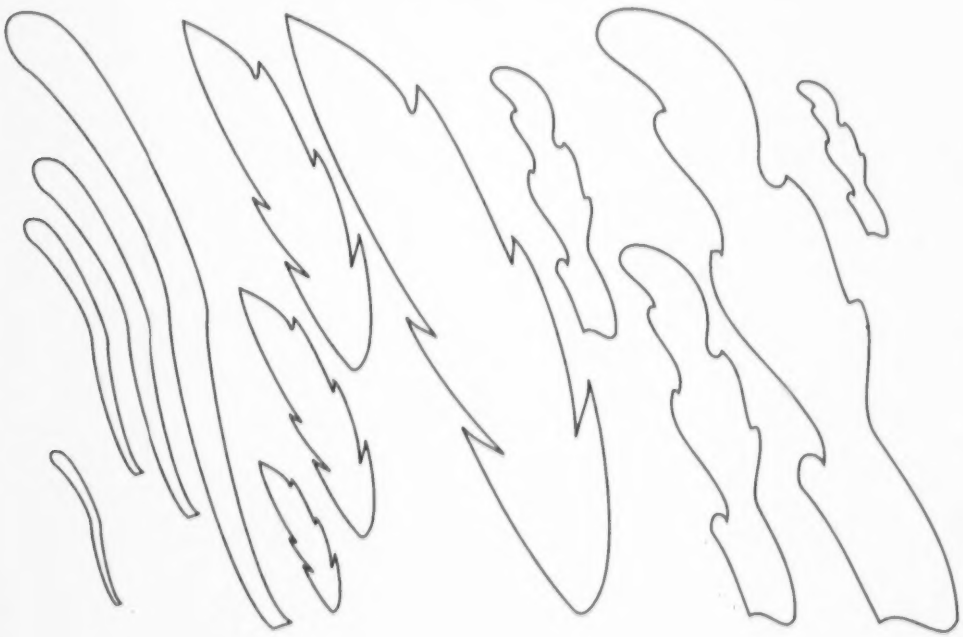
Each city's **Scribe** should follow these suggestions while preparing his/her city's ceremonial headdresses:

1. **Beginning** Begins this project no later than Day 11. The headdresses will take two to three days to complete, and the Scribe may need other group members' help after they have finished their other work.

2. **Construction paper colors** Obtain six colors of construction paper: green, red, blue, yellow, purple, and orange. Cut the construction paper into the following sizes and amounts for each group:
   - 1-1/2" x 3" (12 of each color)
   - 3" x 5" (6 of each color)
   - 3" x 7" (6 of each color)
   - 4" x 12" (1 of each color)

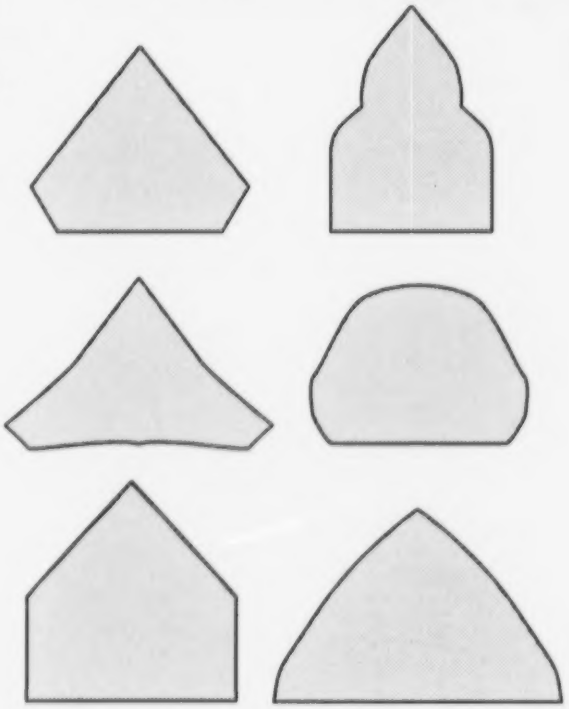
Note:
The feathers patterns on the bottom of this page have been proportioned to show you how they will look if you make them in 3", 5", 7", and 12" lengths as suggested in #3.

3. **Feather patterns** Each city creates its own feather patterns for 3", 5", 7", and 12" feathers. This way each city's headdress will be unique. Cut the feathers from the construction paper. The Scribe should use the paper's full length so the feathers don't end up shorter than they should be.



HEADDRESS PROJECT - 2

4. **Shape patterns** Each headpiece should be around 14" to 16" across the base. As Scribe you may select the shape you and other city members most like, or you may wish to create your own new shape. *Be creative, but work to remain as true to Mayan design as you can.*



5. **Cutting** Cut six headbands from heavy tagboard around 25" x 3". Glue and staple these headbands to the headpieces, centering them along the base. (Cut a couple of extras for "backup.")

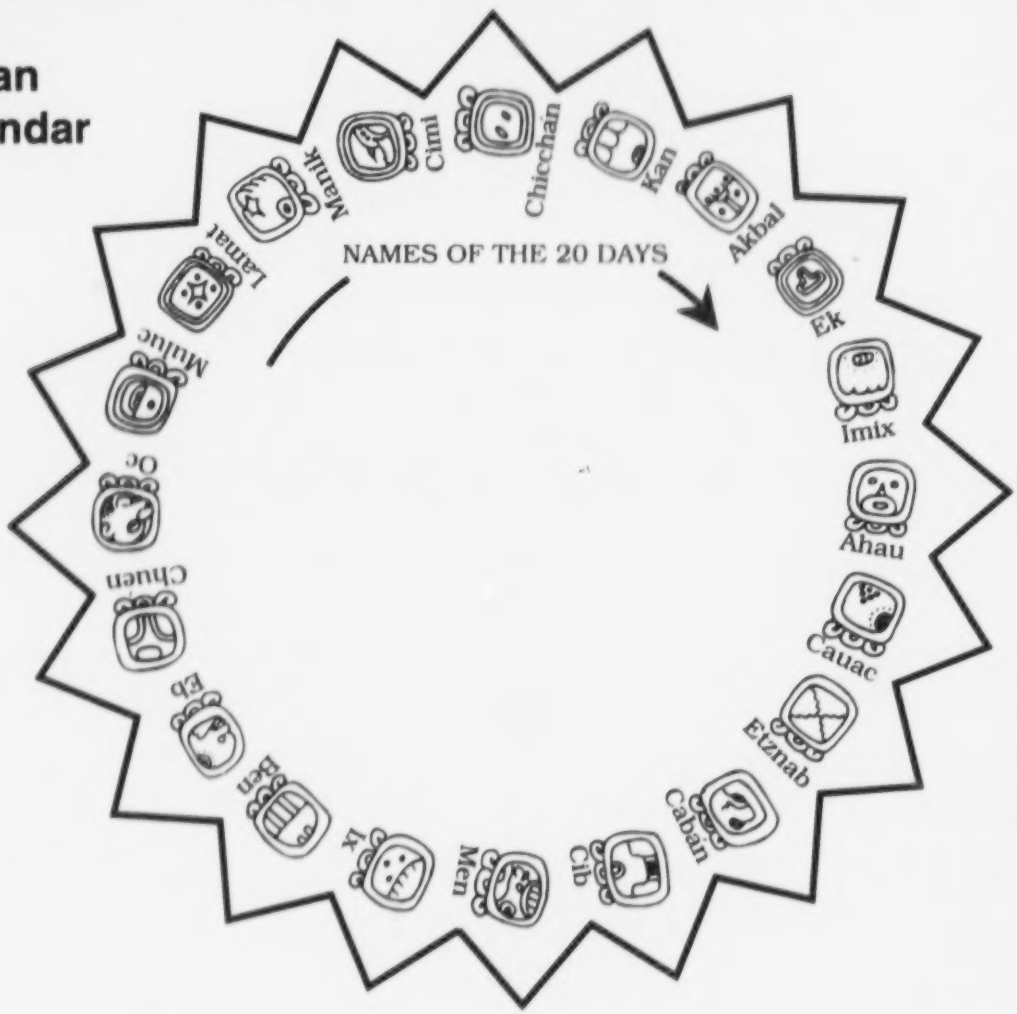
Note the elaborate feathers in this chief's headdress.

6. **Gluing** Once all feathers have been cut, have Scribes begin gluing the 7" feathers along the top of the headpieces, working their way down. When they have used all of the 7" feathers, begin with the 5" feathers continuing to work down. Finish the bottom section with the 3" feathers being sure that all areas get filled in and no part of the tagboard is showing. Top off the headdress with the 12" feathers arranged in a floppy fashion along the top and sides.

8. **Wearing** Personally fit each headband to the group member who will be Noble Lord on the last day. Noble Lords will wear the ceremonial headdress during the final ceremony, but he or she should share the honor with the other team members if they desire.

7. **Finishing** Be sure you have finished your gluing the day before the Final Grand Ceremony so the glue will be dry. If necessary, you can make last minute fixes with a stapler.

Mayan Calendar



Directions: Duplicate seven of these calendars—one for each city-team folder/packet and one for yourself so that you can check students' work. Cut apart the two parts and laminate them if possible. ***Note:*** *Directions for duplicating, cutting, and laminating other materials for the six teams are found on the next six sequential pages in this Teacher Guide.*

Note: Directions for using this Mayan Calendar are found at the top of page 4 of the Student Guide.

UXMAL TEAM PACKET

Directions: Duplicate one copy of this sheet. Cut apart the pieces, laminate them (if possible), and hand them out in the sequence given in the Daily Directions.

Ah Mun
(God of Corn)

DEITY
CARD

UXMAL

UXMAL

Trading Schedule

Day 1/6 = Chichen Itza
Day 2/7 = Palenque
Day 3/8 = Tulum
Day 4/9 = Tikal
Day 5/10 = Mayapan

Trading Valuables

(See strips)
- 30 Zapotec Idols
- 20 Cacao Units
- 10 Silver Units

UXMAL NUMBER PROPHECY CARD

Your lucky number is ...

8 Uaxac

It is associated with the God Ah Mun, the maize god. He has an affect on the amount of corn that is grown.

UXMAL NUMBER PROPHECY CARD

12 Lahca

Represents a favorable number for trading

UXMAL

Mayan Days

IX (14)

MEN (15)

CIB (16)

UXMAL

Picture Glyphs of the Mayan Numbers

0

1

2

3

4

5

6

7

8

9

In your SECRET CODEX, draw these glyphs next to the numbers they represent.

PALENQUE TEAM PACKET

Directions: Duplicate one copy of this sheet. Cut apart the pieces, laminate them (if possible), and hand them out in the sequence given in the Daily Directions.

Xaman Ek
(God of the
North Star
and Travelers)
DEITY
CARD

PALENQUE

PALENQUE

Trading Schedule

Day 1/6= Mayapan
Day 2/7= Uxmal
Day 3/8= Chichen Itza
Day 4/9= Tulum
Day 5/10= Tikal

Trading Valuables

(See strips)
- 30 Obsidian Points
- 20 Quetzal Feathers
- 10 Turquoise

PALENQUE NUMBER PROPHECY CARD

Your lucky number is ...

6 Uac

This number is associated with the God Chac. It has an effect on the amount of rain that will fall.

PALENQUE NUMBER PROPHECY CARD

– 5 Ho

Represents a favorable number for trading

PALENQUE

Mayan Days

IMIX (1)

EK (2)

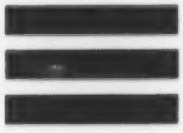
AKBAL (3)

PALENQUE

Mayan Numbers

5

10



15

20

TULUM TEAM PACKET

Directions: Duplicate one copy of this sheet. Cut apart the pieces, laminate them (if possible), and hand them out in the sequence given in the Daily Directions.

Itzamna
(Head of the Mayan Gods)

DEITY CARD

TULUM

TULUM

Trading Schedule
Day 1/6= Tikal
Day 2/7= Mayapan
Day 3/8= Uxmal
Day 4/9= Palenque
Day 5/10= Chichen Itza

Trading Valuables
(See strips)
- 30 Turtle Shells
- 20 Salt
- 10 Emeralds

TULUM NUMBER PROPHECY CARD

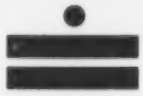
Your lucky number is ...

●●●● **4 Can**

It represents the four directions—North, South, East, and West. It is associated with the Sun God Kinich, and is a very powerful number.

TULUM NUMBER PROPHECY CARD

Beware of the number ...



11 Buluc

It is a number associated with the earth gods. It is best to sacrifice to avoid the effects of this number.

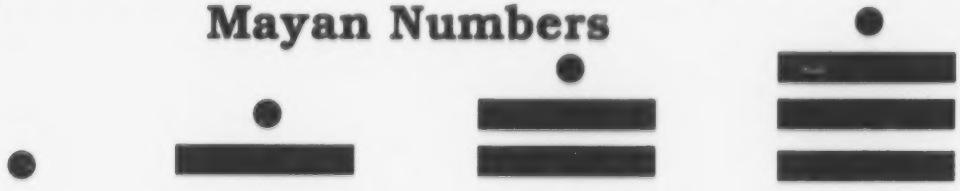
TULUM

Mayan Days

CHUEN (11) EB (12) BEN (13)

TULUM

Mayan Numbers



1 6 11 16

MAYAPAN PACKET

Directions: Duplicate one copy of this sheet. Cut apart the pieces, laminate them (if possible), and hand them out in the sequence given in the Daily Directions.

Ah Puch (God of Death)

DEITY CARD

MAYAPAN

MAYAPAN

Trading Schedule

Day 1/6= Palenque
Day 2/7= Tulum
Day 3/8= Tikal
Day 4/9= Chichen Itza
Day 5/10= Uxmal

Trading Valuables

(See strips)
- 30 Toltec Idols
- 20 Cotton Cloth
- 10 Gold

MAYAPAN NUMBER PROPHECY CARD

Your lucky number is ...

●● **2 Ca**

Represents a favorable number for sacrifice.

MAYAPAN NUMBER PROPHECY CARD

Beware of the number ...

10 Lahun

This number is associated with Ah Puch, the God of Death. It is unlucky for every occasion.

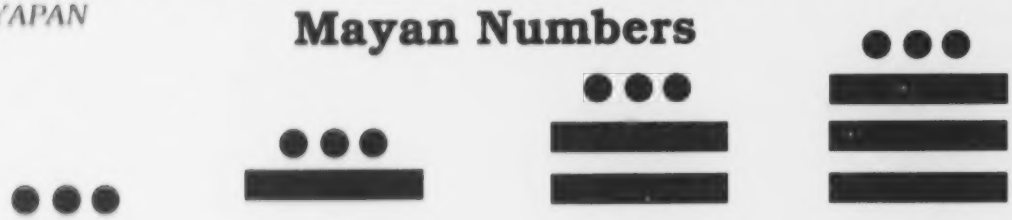
MAYAPAN

Mayan Days

MANIK (7) LAMAT (8) MULUK (9) OK (10)

MAYAPAN

Mayan Numbers



3 8 13 18

CHICHEN ITZA PACKET

Directions: Duplicate one copy of this sheet. Cut apart the pieces, laminate them (if possible), and hand them out in the sequence given in the Daily Directions.

Ix Chel (God of Childbirth and Weaving) DEITY CARD

CHICHEN ITZA

CHICHEN ITZA

Trading Schedule

Day 1/6= Uxmal
Day 2/7= Tikal
Day 3/8= Palenque
Day 4/9= Mayapan
Day 5/10= Tulum

Trading Valuables

(See strips)

- 30 Obsidian Points
- 20 Paper
- 10 Copper Rattles

CHICHEN ITZA
NUMBER PROPHECY CARD

Your lucky number is ...

7 Uuc

It is associated with the earth.

CHICHEN ITZA
NUMBER PROPHECY CARD

Beware of the number ...

1 Hun

This number is associated with Ix Chel, the Moon Goddess. It is unlucky for every activity.

CHICHEN ITZA

Mayan Days

CABAN (17)

ETZNAB (18)

CAUAC (19)

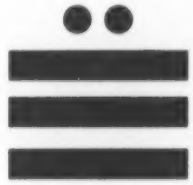
CHICHEN ITZA

Mayan Numbers

2

7

12



17

TIKAL PACKET

Directions: Duplicate one copy of this sheet. Cut apart the pieces, laminate them (if possible), and hand them out in the sequence given in the Daily Directions.

Ek Chuah
(God of
Merchants)

DEITY
CARD

TIKAL

TIKAL

Trading Schedule

Day 1/6= Tulum
Day 2/7= Chichen Itza
Day 3/8= Mayapan
Day 4/9= Uxmal
Day 5/10= Palenque

Trading Valuables

(See strips)

- 30 Conch Shells
- 20 Jaguar Skins
- 10 Jade

TIKAL NUMBER PROPHECY CARD

Your lucky number is ...

13 Oxlahum

This number represents the highest of the 13 levels of heaven. Only good things associated with this number will happen.

TIKAL NUMBER PROPHECY CARD

Beware of the number ...

9 Bolon

It represents the gods of the underworld and is associated with evil, darkness, and death.

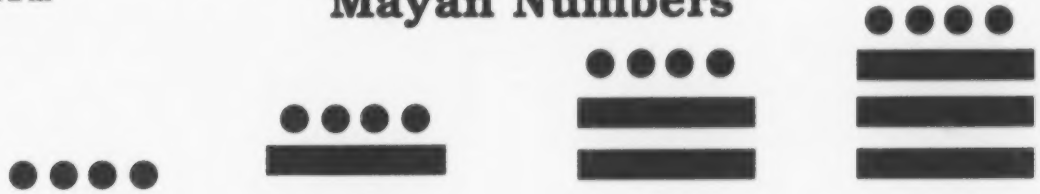
TIKAL

Mayan Days

KAN (4) CHICCHAN (5) CIMI (6)

TIKAL

Mayan Numbers



4 9 14 19

MAYA
DAILY TASK TIME TABLE

Follow this table after any team meeting.

Approximate Time	Noble Lord	Ambassadaor	High Priest	Mathematician	Scribe
10 minutes	All team members attend the team meeting. (See team mtg. agenda.)				
5 minutes	Observes for cooperation skill	Letter of Introduction	Study information for CODEX	Mayan Math	Completes art assignment
10 minutes	Completes Cooperation Skill Worksheet Completes work for missing group member	Trade	Trade		
10 minutes	Both work to complete the Royal Inventory		Fills in SECRET CODEX	Completes the Royal Census	
10 minutes	Checks math, inventory, and census	Counts valuables and corn to verify inventory & census	Helps Artist finish	Gives census to Noble Lord	
5 minutes	All work is organized in the team folder and turned in to the teacher.				

DEVELOPING COOPERATIVE LEARNING SKILLS - 1

Note to the leader: Read the next two paragraphs to your group.

The ancient Mayan leaders learned that through cooperation, their people could build a great civilization. However, in the 13th century cooperation turned to fighting, and their civilization fell.

Some persons seem to have been born with the skills to work together well with others. But most persons need to learn and practice the skills that help them to be more cooperative. During MAYA, our team will improve its use of 10 cooperative learning skills. Team members will focus on developing a different cooperative skill each day. As the person responsible for the tally sheet on a certain day, our group leader must observe and tally how each member of our group performs that day's skill. He/she will follow certain steps to help our group improve its cooperative learning skills.

Directions to the leader:

Learn to work together.

1. The COOPERATIVE SKILLS CHECKSHEET for your team is in your team packet. (On Day 1 you will fill in team members' names.)

2. Immediately tell your team members which skill everyone will concentrate upon for the day. Make very clear to everyone what behavior will result in your giving that person a successful mark. (See the 10 descriptions of appropriate behavior following #6 below.)

3. When you see group members using the skill learned for the day, record it on the COOPERATIVE SKILLS CHECKSHEET. You will receive no marks on the day you must do the tallying.

4. Since a mark may be recorded for each occurrence, you may tally multiple marks under each student's name. The checksheet will help your team members to be visually aware of whether or not they practiced the daily skill. It is not intended to be used as a means to earn more corn or to obtain valuables.

5. At the end of the day's activities, lead a discussion of how well your team practiced the day's social skills. Try to be positive. Relate your comments to how much you sense that students' use of the social skill helped them to complete their work.

6. Return the COOPERATIVE SKILLS CHECKSHEET to the team folder.

DEVELOPING COOPERATIVE LEARNING SKILLS - 2

The following cooperative learning skills will be introduced:

Day 1 ***Moving without noise***
City members should move to and from their city or assignments without talking or banging furniture.

Day 2 ***Staying with the group***
Team members should remain on task. They should not wander around the room or talk with friends in other groups. They should work only with their own team members.

Day 3 ***Using a quiet voice while talking about the simulation***
Use subdued voices for group discussions. All talking should relate to this MAYA simulation. Group members should not yell instructions to other team members across the room. Team members should hold up their hands to ask a question or to ask for help from the teacher.

Day 4 ***Encouraging everyone to participate***
Each city member should participate in decision making. The leader will ask each member for input and will encourage members in a positive manner to complete their work. Team members should encourage one another with compliments and positive suggestions.

Day 5 ***Using given names***
When speaking to any member in the group, city members should use that member's first name. *Caution team members not to overdo this one just to gain more tallies.*

Yes, everyone has a first name ..... and everyone wants to participate!

Day 6 ***Making eye contact with speaker***
Team members should demonstrate good listening skills by looking directly at the person speaking, whether it is the teacher or another group member.

Day 7 ***Refraining from putdowns***
No unkind remarks or name calling should be directed toward other team members, toward other teams, or toward the teacher. Record a mark on the tally sheet for every 15 minutes that a team member has not used a putdown.

DEVELOPING COOPERATIVE LEARNING SKILLS - 3

Day 8 ***Directing the group's work***
Observe when team members contribute concrete suggestions for completing assignments. Record a tally when a team member makes a positive suggestion on how the group can improve its work or suggests ways your city can improve. Examples: 1) giving suggestions regarding team strategy and short-term and long-term goals; 2) offering to proofread another team member's work to check for misspellings and missing information.

Day 9 ***Expressing support***
City members should express support for other team members. They should congratulate someone when good work has been accomplished. Even when a team member has made a mistake, received a poor grade or missed a question, group members should try to make positive contributions. Watch students to see if they attempt to buoy up their teammates' spirits.

Day 10 ***Asking for help***
Team members should demonstrate that they understand who, when, and how to ask for help. They should ask for help from a teammate or from the teacher when they can no longer proceed with their assignment because they do not understand something. Students should ask for specific help with a question rather than a simple statement of "I don't get it." The question should demonstrate that the student has read all instructions and is still unclear on how to proceed. Team members should raise their hands to ask for the teacher's help, but they may ask a teammate directly. Record a tally when you observe that help has been properly requested.

Your, yourself, have an opportunity here to help everyone be a happier, more successful group member. Don't act like a tough disciplinarian. Instead, be like a warm, friendly parent.

"Good luck!"

COOPERATIVE SKILLS CHECKSHEET

Observer's name: _____

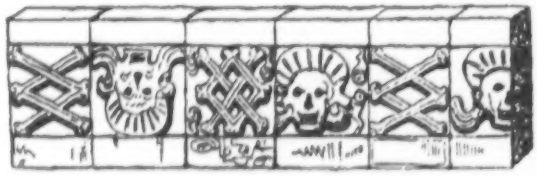
Date: _____

Group members' names					
Move without noise					
Stay within the group					
Use quiet voice					
Encourage all to participate					
Use group members' names					
Make eye contact with speaker					
Use no put-downs					
Direct the group's work					
Express support for others					
Ask for help					

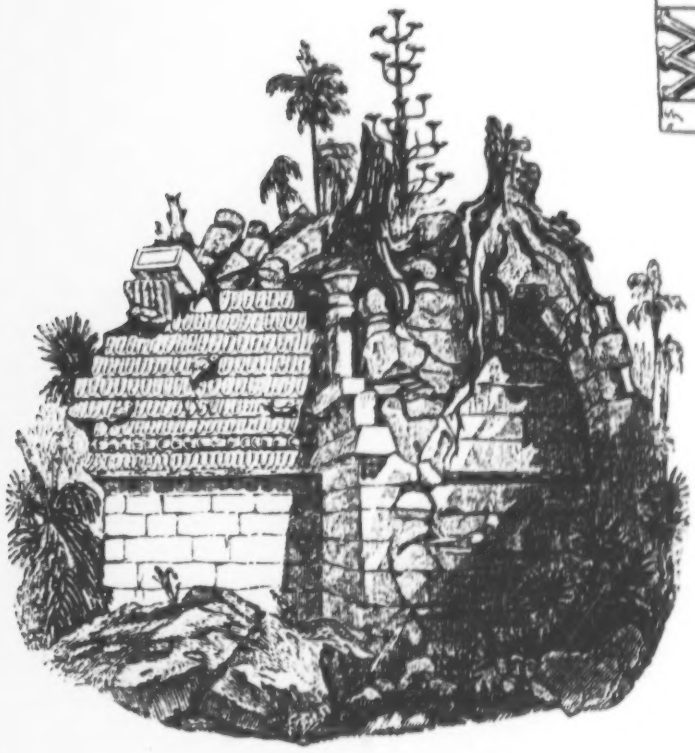
OPTIONAL ILLUSTRATIONS (Duplicate for students?)

House of the Dwarf at Uxmal

Stela at Uxmal



Carved Skulls at Uxmal



House of Birds at Uxmal

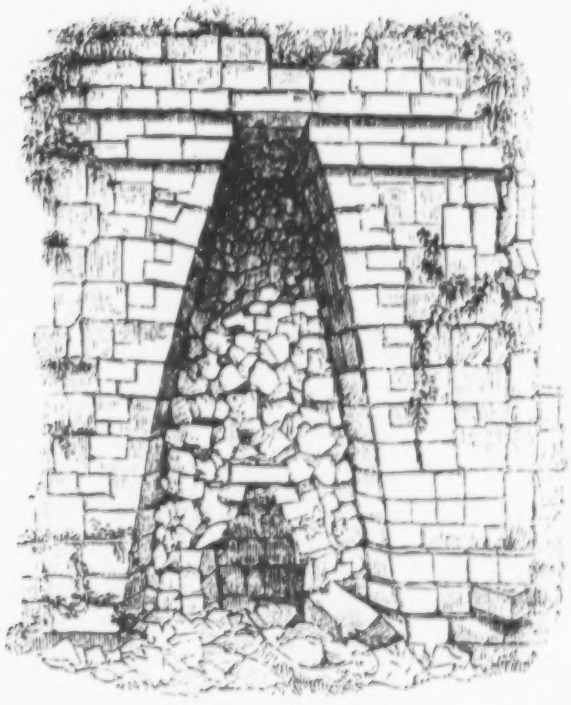
OPTIONAL ILLUSTRATIONS (Duplicate for students?)

Chan-Bahlum at Palenque

OPTIONAL ILLUSTRATIONS (Duplicate for students?)

Doorway at Uxmal

Cozumel Ruins



Mayan Arch

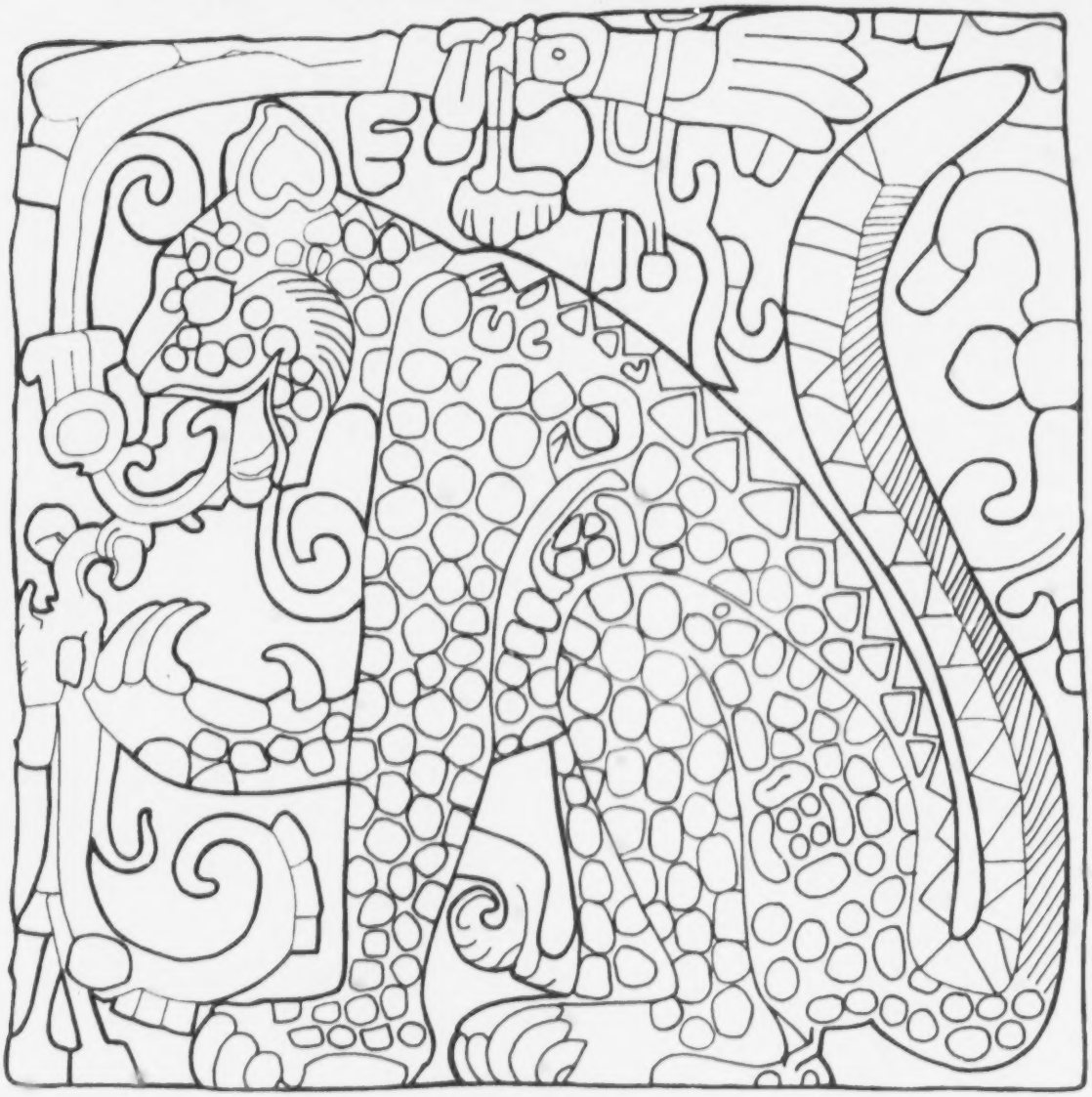
Circular Building at Mayapan

OPTIONAL ILLUSTRATIONS (Duplicate for students?)

Offering to Sun God

82

OPTIONAL ILLUSTRATIONS (Duplicate for students?)



Mayan Jaguar

Ticul Vase

OPTIONAL ILLUSTRATIONS (Duplicate for students?)

Zac-Kuk Offering Crown to Pacal of Palenque

OPTIONAL ILLUSTRATIONS (Duplicate for students?)

Dancer with Animal Headdress

OPTIONAL ILLUSTRATIONS (Duplicate for students?)

Winged Mayan Man Plate

OPTIONAL ILLUSTRATIONS (Duplicate for students?)

Carving on an altar at Tikal. Two elaborately dressed men are talking with one another about the skull and stack of thighbones.

OPTIONAL ILLUSTRATIONS (Duplicate for students?)

A sculptured lintel from the ruins at Yaxchilan showing two warriors—Bird Jaguar and Jeweled Skull—taking captives on May 7, 755 A.D.

OPTIONAL ILLUSTRATIONS (Duplicate for students?)

Mayan warrior For a long time persons did not believe the Mayans were warlike. Now it has been confirmed that groups warred with one another continuously. Victories were celebrated in carvings on stone monuments. See example on next page.

OPTIONAL ILLUSTRATIONS (Duplicate for students?)

Children at Chichen Itza These children have stopped to admire a butterfly. They are standing on the terrace of the Temple of Warriors. Behind them on the left is a serpent column. The 100 feet tall building is the Temple of Kukulcan (the Feathered Serpent); it has 365 steps, an inner temple, and a special alignment that aided Mayan astronomers.

MAYA

A simulation of Mayan civilization during the early seventh century

SAMPLE

Student Guide

Excitement sweeps through the busy Mayan plaza. Drums beat out a ceremonial rhythm proclaiming that several of you are to be the new leaders who will take command of this Mayan city. A magnificent future has been predicted under your great leadership. The prophecies say that together with the new leaders of the other Mayan cities, a great empire will be created.

All people bow respectfully as you sit majestically at your newly carved throne encrusted with jade and other precious gems. A huge feathered headdress is placed on your head. As this is happening, in your mind you are carefully making detailed plans on how your city will be the greatest in the Mayan Empire.

The date is sometime around A.D. 600. Obscure trade routes curve their way through the steamy jungles and highlands of Central America linking your city with the other important centers of your people, the Maya. Along these trade routes you must build trading alliances that will provide the corn, valuables, and knowledge to build this great empire. You feel the heavy weight of all the many responsibilities of leadership. You have already concluded that, as city leaders, you can accomplish your city's goals only by working cooperatively with the other cities' leaders who seek similar goals.

Destiny has touched your shoulders. Now it is your job to build your city by supplying food for your people and by discovering information to fill the codex—the Mayan secret book of knowledge. You must also trade with other cities for the precious valuables you will need for sacrifice. If done properly, these sacrifices will assure that Chac, the rain god, will supply life-giving rains for a bountiful corn harvest to feed your growing city's citizens.

Careful, accurate work and cooperation both with your team members and the other teams' members will bring your city the supplies it needs. Under your leadership, the Mayan Empire will achieve such greatness that students hundreds of years from now will eagerly learn of its splendor and share in the excitement of this challenging historic time.

PETER ROTH, the author of MAYA, developed a fascination for the Mayan civilization during the 1980s while traveling extensively throughout Central America. At that time he visited all the historical sites used in MAYA. For Interact he has also written WAR LORDS OF JAPAN, a simulation of the shogun history of feudal Japan. Currently Peter teaches in Zephyr Cove School in Lake Tahoe, Nevada.

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Background Essay: MAYAN CIVILIZATION

Land of the Maya The Maya carved their civilization from regions of rugged terrain and hot, harsh climate. The Mayan Empire stretched across Mexico's southeastern states through the Yucatan Peninsula, south into Guatemala and touching into northern Honduras. You can find this area on a map of Mexico and Central America.

Three regions The Mayan Empire can be divided into three areas, each with special regional problems these determined people had to conquer. In *the southern region,* the steep, rocky mountains make farming difficult. *The central region,* which includes the cities of Tikal and Palenque, is located in dense tropical lowlands where heat and thick vegetation can cause living conditions to be unbearable. *The northern region* of the Yucatan can also be hot, and it has unpredictable dry spells and very few rivers. Northern cities like Chichen Itza, Mayapan, and Uxmal were built near cenotes, or natural limestone wells in hopes of maintaining a steady supply of water. In spite of the difficult lands the Maya chose for their home, they were able to successfully farm, build long roads and elaborate buildings, and to create a grand and sophisticated culture.

Sun symbol at Palenque

Turn to page 8 of this Student Guide and examine the priest in the upper right hand corner of the map. He is worshipping the sun symbol at the right. Note how this sun symbol is suspended from crossed spears which rest on a platform decorated with three serpent heads. Two priests are using their backs to hold up the platform. One priest wears a jaguar skin; the other wears a costume of sky symbols. At each corner of the solar disc above are water lilies which symbolize abundance.

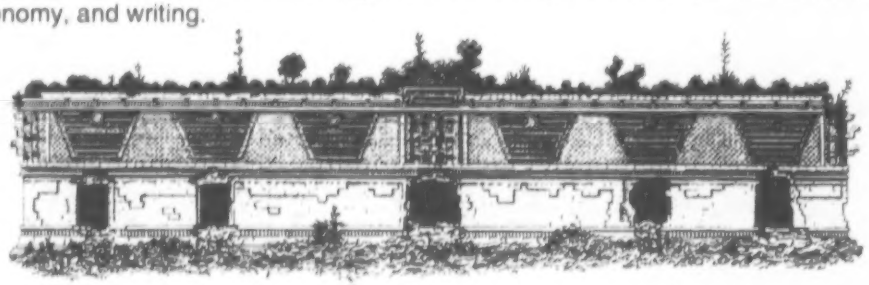
This illustration reveals how Mayans used elaborate art to represent their culture's beliefs.

In our simulation you, too, will have opportunities to use art to increase your understanding of these fascinating people.

Classic period Mayan history goes back at least to 2500 B.C. However, the beginnings of Mayan greatness developed around A.D. 300, and it flourished until around A.D. 900. This 600-year period, known as the Classic Period, was a time when societies developed around

large and magnificent cities. These independently ruled city-states were many things: centers for practicing religion, areas for storing food and water, market places for trading goods, and schools for developing ideas and preserving culture. The powerful noble rulers resided in these city-states.

Knowledge is power Although the noble lords ruled over their city-state, independent of other Mayan city-states, all cities formed a loose Mayan confederation for the benefit of trade and the exchange of ideas. However, noble lords were heavily influenced by religious leaders. Both priests and lords held power over the common people through discovery and control of scientific knowledge of their world. The Maya were unsurpassed by any of the world's early cultures in their understanding of mathematics, architecture, time and calendars, astronomy, and writing.



Eastern Monjas at Uxmal

A sudden ending By 900 the Mayan cities were at the height of their cultural glory, yet for some mysterious reason, their great empire seemed to collapse. The real reason for the fall may never be known. Many educated guesses have been made in an attempt to explain how 600 years of splendor could come to a sudden end. Drought, famine, war, revolt of the common people, disease, or influence from other tribes are all possible suggestions of what brought the Classic Period to such a sudden end. What do you think could have caused such a downfall?

Post classic period After a short period of unrecorded Mayan history, the Mayan Empire began to rebuild in an effort to gain back its earlier greatness. The years between 900 and about 1250 are known as the Post Classic Period. Many of the old, nearly abandoned cities were rebuilt larger than before. New cities, like Mayapan, emerged. Although religion was still important, priests had less influence over political affairs while noble lords took greater control of their cities as military leaders.

Final ending The Post Classic Period was a time of building great palaces and pyramids, establishing distant trade routes, and refining Mayan knowledge of the world. But, by 1250 the remarkable Mayan Empire again weakened and fell. Although this collapse was most likely due to fighting among the cities' leaders, no definite reason is certain.

Spanish arrive The Mayan cities were again abandoned, but the Maya people continued to live in the region making their living from the land and sea. By the time the Spanish arrived in the 1500s, the Mayan Empire was gone, though a large population of Mayan people remained. The Spanish attempted to destroy as much of the ancient Mayan culture as they could, burning Mayan books and building churches over the tops of old Mayan temples. However, to this day the Mayan people keep among themselves the secrets of the Mayan past and the knowledge that in earlier times their culture was among the greatest civilizations on earth. Perhaps the future, too, will have something great in store for the Maya.

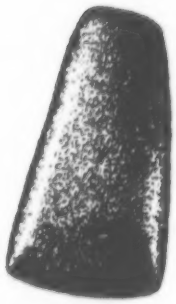
Questions

1. What qualities do you think gave strength to the Mayan Empire?
2. In what ways can trade between cities help to create good relationships?
3. Why do you think the Mayan Empire didn't go on forever?

BACKGROUND INFORMATION

Mayan calendar The Mayan "Wheel of Time" was an extremely accurate calendar that was used both for keeping track of the days and for predicting the future. Two wheels turn like gears to align a day number with a day name. The smaller wheel has numbered points from 1 to 13; it is rotated counter clockwise. The larger wheel contains the names of the 20 Mayan days; it is rotated clockwise. The days are notched so the points of the smaller wheel can be inserted into the notches of the larger wheel.

The day you begin MAYA will be the first day of the year, which is 1 Imix. As the two wheels rotate into each other, future days can be determined. ***(Example:** Day 2 is 2 Ek; Day 3 is 3 Akbal.)*

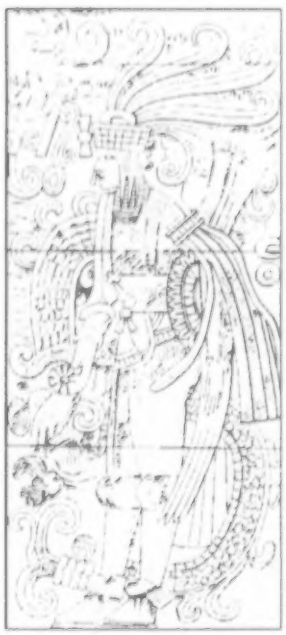


Chisels of varying sizes were used by Mayan carvers to carve beautiful sculpture.

Your teacher will award your city with the Wheel of Time once your group has discovered how to write the Mayan numbers 0-20 and the names of the Mayan days. You will use the Mayan Calendar to complete some of your Mayan Math assignments and to date your important papers.

Religion The Maya believed in many gods or deities, each of which had a different responsibility. An example is the very important god, Chac, the long-nosed god of rain. (Without a steady supply of rain from Chac, your city will not be able to grow.) Other important Mayan gods control death, weaving, trading, corn, and all things that a Mayan leader must be concerned with. During MAYA, your group's High Priest will meet with the other High Priests to uncover the names and responsibilities of the most significant of the Mayan deities. You will record this information in your secret codex, the Mayan Book of Knowledge.

Number system The Maya used a series of bars and dots to write their numbers. One of the first tasks of your group is to discover how to write the numbers 1-20 in the Mayan numbering system. High Priests will find some of the numbers in their information envelopes. By sharing this information with other groups and by using your reasoning powers, you will quickly be able to crack the code of the Mayan number system.



Bas relief at Chichen Itza

Numbers not only represented value to the Maya, each number also had its own meaning or prophecy. Certain numbers could be associated with the Mayan gods, or they could represent good luck or bad luck. By understanding the prophecies of the numbers, the Maya thought they could predict the future and better prepare for whatever fate the future had in store for them. Your city will have its own lucky and unlucky numbers that you will discover in your information packet. You may trade this information with other groups to complete your Secret Codex.

Valuables Each Mayan city had the ability to gather or produce certain unique valuables that were difficult for other cities to obtain. Mayan trade routes over mountains and through jungles developed between the major cities to exchange these desirable items. Many of these valuables were used in sacrificial ceremonies seeking favor from Chac and other Mayan gods.

Your city produces three types of valuables. You may use these items for the coming sacrifices, or your Ambassador may trade them for valuables produced by other cities. A clever Ambassador will be able to create favorable trades for his city if he/she learns what and how many valuables the other cities produce. Collecting a large variety of valuables will not only increase your city's wealth, it will also prepare you for important future sacrificial ceremonies. On the first day of MAYA, your teacher will supply your city with a sheet of trading strips representing the valuables your city produces. Your city will also receive a sheet of trading strips following each sacrificial ceremony.

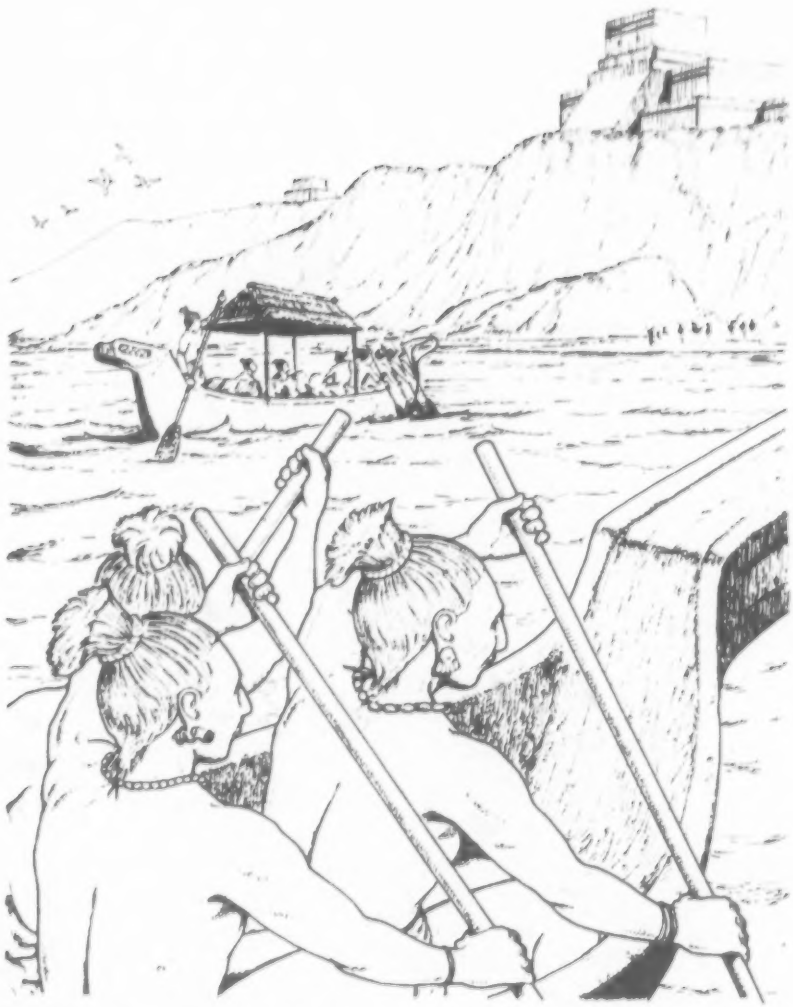
DESCRIPTION OF YOUR SIX MAYAN CITIES

Read this section before beginning MAYA to learn more about the city you represent. *(Note the cities' phonetic spellings in italics within the parentheses in the next six paragraphs.)*

Tulum *(tah loom)* Tulum has perhaps the most beautiful location of the Mayan cities because it is located directly on the coast of the Caribbean Sea. Although it is not among the largest of the cities, Tulum prospers because it can acquire and trade goods from the sea. Other cities can reach Tulum by boat to supply them with goods from far away places.

Chichen Itza *(chee chin eats a)* Chichen Itza is a large, well-preserved city located in the north-central part of the Mexican Yucatan. Chichen Itza has grown to great wealth and power because of its central position among the Mayan trade routes. The huge pyramid known as The Castillo, and the Sacred Cenote or well of human sacrifice are located here.

Uxmal *(oosh mall)* Uxmal can be found in the Northwestern part of the Mexican Yucatan, in close trading proximity to Chichen Itza. The magnificent architecture here is adorned with many elaborate decorations and bright colors. The unique Pyramid of the Magician has unusual rounded corners and is said to have been mysteriously built all in one night.



Trading between cities
Intercity trade was essential to ancient Mexican civilizations, for few cities were able to raise all the food or create all the goods they needed or desired.

Mayapan *(my yah pan)* Although little is left of it today, early Mayapan was a huge and powerful walled city close to Chichen Itza and Uxmal. It is thought that Mayapan gained awesome military might and attempted to become the center of rule for all the Mayan Empire. Perhaps the aggressive leaders of Mayapan weakened the great empire by attempting to dominate the other cities, rather than cooperating with them in matters of knowledge and trade.

Tikal *(ti call)* Tikal is the largest of the Mayan cities, located in the middle of the dense jungle region of Northern Guatemala. This sprawling city consists of numerous residences, temples, pyramids, palaces, shrines, ball courts, and many more Mayan ceremonial structures. The sheer enormity and startling wealth of Tikal make it a city unsurpassed by any other city in the world during its days of glory.

Palenque *(pal en kay)* One of the eastern most cities in the Mayan realm, Palenque is isolated from many of the other cities by long distances stretching through thick Mexican jungle. This hidden and mysterious city benefits by having a ready and continuous supply of fresh water, assuring stable living conditions for its residents. Bloody battles and human sacrifices are as much a part of Palenque life as are trade and cooperation with fellow Mayans and other tribes as well.

RULES/ROLES

You will play *all* the roles.

1. **Organization** Your class has been divided into six teams, or city-states, representing actual cities of the Mayan Empire. Your city will be one of these six: Uxmal, Chichen Itza, Mayapan, Tulum, Tikal, or Palenque.

2. **Roles** There are several important roles of leadership for your members to carry out. You will hold each office for two days in a row. Before MAYA begins, you will complete a role schedule with your teammates to determine on which days you will be responsible for each job. Here are the roles:
   - **Noble Lord** Observes members' cooperative learning skills, completes work for absent members, and checks all work before it is handed in.
   - **Ambassador** Completes the AMBASSADOR'S LETTER OF INTRODUCTION, trades goods with other teams, counts valuables, and verifies the ROYAL INVENTORY with the Mathematician.
   - **High Priest** Studies information for the SECRET CODEX, trades information with other teams, completes the SECRET CODEX, helps the Scribe complete art.
   - **Mathematician** Completes the MAYAN MATH, works with the Ambassador to complete the ROYAL INVENTORY.
   - **Scribe I** Works the art project (choose from optional art in the Teacher Guide).
   - **Scribe II** *(Optional for a large class)* Completes a journal of the day's affairs.

3. **Objectives** Accomplishing the following objectives will help your group win the simulation:
   - Establish lines of trade that benefit the growth of your city.
   - Acquire goods needed for the sacrificial ceremonies and for the accumulation of wealth.
   - Establish lines of communication to acquire and exchange the information and knowledge necessary to complete a secret book of knowledge.
   - Provide food for your city's growth.

4. **Winning** There are six ways to win. Your city may concentrate on winning in one or all of the following ways:
   - Best Sacrifices
   - Best Final Ceremony
   - Greatest Wealth
   - Largest Population
   - Best Teamwork
   - Best Secret Codex

TEAM MEETING

Start each day's activities with a team meeting. Be sure you stick to the meeting format so that each day goes smoothly and that team spirit remains high. Every group member will produce fine work if you start the day off right. Follow the agenda below, and you will have a successful team meeting.

Team Meeting Agenda

1. The **Noble Lord** begins the team meeting by describing the daily cooperative skill, provides an example of the skill, and directs a round robin practice of the skill.

2. The **Ambassador** informs the group of how many valuables they possess, asks group members for opinions about what new valuables they should trade for, and asks for suggestions about the worth of the valuables. The Ambassador must seek an opinion from each group member.

3. The **High Priest** explains the growing amount of information being collected in the SECRET CODEX. He/she must insure that all group members understand.

4. The **Mathematician** asks the group for suggestions about what valuables the other cities possess. He/she may keep a list or chart to help use deductive reasoning while working to discover this information.

5. The **Scribe** describes the daily art in detail to the group. (***Example:*** *"This is a picture of a Mayan ruler wearing jade beads, many multi-colored feathers in his headdress, a jaguar skin, and heavy silver earrings. He appears to be standing on his conquered enemy. Maybe this is Stormy Sky after a great battle.")*

6. You can explain to your team members how you plan to improve your work from the day before. Challenge all team members to do their best today, but remember, no put downs, only give support to your team members.

7. Since meetings should last only about five to 10 minutes, you cannot waste any time. Keep the meeting moving quickly.

SACRIFICE

Sacrifice at the cenote in Chichen Itza

"Life at Chichen Itza, which is located on a dry limestone plateau, was made possible only by the existence of subsurface water and natural sinkholes called cenotes. The main cenote on the site, today some 200 feet in diameter and descending 40 feet to water level, was considered sacred, probably to the rain god Chac .....

The beat of the Mayan drum and the sound of the ceremonial flute indicate it is time to give sacrifice to Chac, the great long-nosed Mayan rain god. Although human sacrifices did most likely take place, none will occur during this simulation. Instead, valuables will be sacrificed to Chac in the hopes of finding his good favor.

The Maya thought that Chac controlled the rainfall, and a worthy sacrifice to Chac would provide the necessary water for the people and their plants and animals. Those cities offering an unworthy sacrifice may be forced to incur Chac's wrath of drought and famine.

Your teacher will inform you on which day the first sacrifice will likely take place. On that day you will sacrifice obsidian, idols from the Toltecs and Zapotecs, and semi-precious and precious stones (either jade, emerald, or turquoise). After this first sacrifice, your teacher will inform you of what valuables Chac deems necessary for later sacrifices on other days. Although you don't know what Chac will demand for these future sacrifices, plan ahead for the unknown.

It was the scene of human sacrifice (men, women, and children) perhaps in times of drought .... Masses of incense and rubber figurines were also thrown in, as well as textiles and precious pieces of carved jade and imported metal objects (gold, copper, etc.). Hundreds of such artifacts have been retrieved in the 20th century."

Illustration and quotation from John Green's *Life In Ancient Mexico*, published by Dover Publications, New York, 1991.

Mayans wrote numbers, weeks, months, years, and other concepts in abstract symbols—often including their gods in their carvings. This segment is from a carved stela which is still standing at Copan.

In this illustration note the full-figured glyphs in which the number god and the time-period god are entwined.

One of two figures among hundreds in the Temple of the Sun, Palenque. (See companion illustration on page 2.)

The World of the Maya

In the above map are only six Mayan cities—those in our MAYA simulation. Of course, in this area are many other sites which today's archeologists visit and carefully study.

Distance Scale

200 Km

200 Miles

98